HAZWRAP

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM

# PLATING SHOP - BUILDING 3001

# FINAL
# REMEDIAL INVESTIGATION REPORT
# VOLUME III OF III: APPENDICES C,D & E

U.S. AIR FORCE
INSTALLATION RESTORATION PROGRAM
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA

**JUNE 1992**


**prepared by**
**HALLIBURTON NUS**
*Environmental Corporation*



Prepared for
HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
Oak Ridge, Tennessee 37831-7606
managed by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-840R21400

HALLIBURTON NUS
*Environmental Corporation*

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# PLATING SHOP - BUILDING 3001

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# VOLUME III OF III: APPENDICES C, D AND E

**U.S. AIR FORCE**
**INSTALLATION RESTORATION PROGRAM**
**TINKER AIR FORCE BASE**
**OKLAHOMA CITY, OKLAHOMA**

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**800 OAK RIDGE TURNPIKE, SUITE C-200**
**OAK RIDGE, TENNESSEE**

**PREPARED FOR:**

**HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM**
**OAK RIDGE, TENNESSEE**
**GENERAL ORDER NUMBER 13B-99784C**
**TASK ORDER Y-04**

# TABLE OF CONTENTS


**APPENDICES**

C **Tentatively Identified Compound Analytical Data Summary Tables and Laboratory Analysis Data Sheets**

- C-1 Tentatively Identified Volatile and Semivolatile Organic Compounds in Soil - Mixed-Acid Sump
- C-2 Tentatively Identified Volatile and Semivolatile Organic Compounds in Soil - Plating Shop
- C-3 Tentatively Identified Volatile and Semivolatile Organic Compounds in Groundwater - Plating Shop

D **Groundwater, Soil, and Waste Sample Data Validation Summaries and Supporting QA/QC Data**

- D-1 Groundwater and Soil Sample Data Validation Summaries
- D-2 Waste Sample Data Validation Summaries and Laboratory Analysis Data Forms

E **Risk Assessment Calculations**

# APPENDIX C

# TENTATIVELY IDENTIFIED COMPOUND ANALYTICAL DATA SUMMARY TABLES AND LABORATORY ANALYSIS DATA SHEETS

# APPENDIX C-1

# TENTATIVELY IDENTIFIED VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL - MIXED-ACID SUMP

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TABLE C-1

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
MIXED-ACID SUMP - PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB101A<br>1-1.5<br>µg/kg | T-SU-SB101X<br>1-1.5<br>µg/kg | T-SU-SB101B<br>2-2.5<br>µg/kg | T-SU-SB101C<br>3.5-4<br>µg/kg | T-SU-SB102A<br>1-1.5<br>µg/kg | T-SU-SB102B<br>2-2.5<br>µg/kg | T-SU-SB102C<br>3.5-4<br>µg/kg | T-SU-SB103A<br>1-1.5<br>µg/kg | T-SU-SB103B<br>2-2.5<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanol, (R) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclotetrasiloxane, Octameth | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 H-Pyrazole 1,5 Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methane, Dichloro/Fluoro | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 128) | ND | ND | 250 J/300 J/190 J | ND | ND | 230 J/240 J/170 J | ND | ND | 230 J/300 J |
| Alkane (MW >1 = 42) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | 160 J | ND |
| Alkane (MW >1 = 152) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 156) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 198) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclohexane Methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclopropane, 1,1,2,2-Tetram | ND | ND | ND | ND | ND | ND | ND | 170 J | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1-(3-Ethyloxianyl | ND | ND | 330 J | ND | 170 J | ND | ND | ND | ND |
| Ethanone, 1-Oxiranyl | ND | ND | ND | ND | ND | 500 J | ND | ND | 480 J |
| 2-(5H)-Furanone, 5,5-Dimethyl | 280 J | ND | ND | ND | 170 J | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | 520 J | ND | ND | 220 J | ND |
| | | | | | ND | ND | ND | 210 J | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0.5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil samle collected from 16 to 20 feet below the land surface (i.e., SB201C)
X - Dupliate sample (i.e., SB201X).

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TABLE C-1

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
MIXED-ACID SUMP - PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE THREE

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB104A<br>1-1.5<br>µg/kg | T-SU-SB104B<br>2-2.5<br>µg/kg | T-SU-SB104C<br>3.5-4<br>µg/kg | T-SU-SB105A<br>1-1.5<br>µg/kg | T-SU-SB105X<br>1-1.5<br>µg/kg | T-SU-SB105B<br>2-2.5<br>µg/kg | T-SU-SB105C<br>3.5-4<br>µg/kg | T-SU-SB106A<br>1-1.5<br>µg/kg | T-SU-SB106X<br>1-1.5<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanol, (R) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclotetrasiloxane, Octameth | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 H-Pyrazole 1,5 Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methane, Dichloro/Fluoro | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 128) | ND | 180 J | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 42) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 152) | ND | 460 J | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 156) | ND | 180 J | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 184) | ND | 170 J | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 198) | ND | 170 J | ND | ND | ND | ND | ND | ND | ND |
| Cyclohexane Methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclopropane, 1,1,2,2-Tetram | ND | ND | ND | ND | ND | ND | ND | 210 J | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- (3-Ethyloxianyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- Oxiranyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | 260 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0.5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil samle collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

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TABLE C-1

**TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]**
**MIXED-ACID SUMP - PLATING SHOP - BUILDING 3001**
**TINKER AIR FORCE BASE**
**OKLAHOMA CITY, OKLAHOMA**
**PAGE FIVE**

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB107A<br>1-1.5<br>µg/kg | T-SU-SB107B<br>2-2.5<br>µg/kg | T-SU-SB107C<br>3.5-4<br>µg/kg | T-SU-SB108A<br>1-1.5<br>µg/kg | T-SU-SB108B<br>2-2.5<br>µg/kg | T-SU-SB109A<br>1-1.5<br>µg/kg | T-SU-SB109B<br>2-2.5<br>µg/kg | T-SU-SB109C<br>3.5-4<br>µg/kg | T-SU-SB111A<br>1-1.5<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanol, (R) | 8.1 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclotetrasiloxane, Octameth | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 H-Pyrazole 1,5 Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methane, Dichloro/Fluoro | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 28) | ND | 270 J/300 J/180 J | ND | ND | 220 J/160 J | ND | 240 J/180 J | ND | ND |
| Alkane (MW >1 = 42) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 152) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 156) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 198) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclohexane Methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclopropane, 1,1,2,2-Tetram | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- (3-Ethyloxianyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- Oxiranyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | 850 J |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend
A - Soil sample collected from 0 5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil samle collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

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TABLE C-1

**TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]**
**MIXED-ACID SUMP - PLATING SHOP - BUILDING 3001**
**TINKER AIR FORCE BASE**
**OKLAHOMA CITY, OKLAHOMA**
**PAGE SEVEN**

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB111X<br>1-1.5<br>µg/kg | T-SU-SB111B<br>2-2.5<br>µg/kg | T-SU-SB111C<br>3.5-4<br>µg/kg | T-SU-SB112A<br>1-1.5<br>µg/kg | T-SU-SB112X<br>1-1.5<br>µg/kg | T-SU-SB112B<br>2-2.5<br>µg/kg | T-SU-SB113A<br>1-1.5<br>µg/kg | T-SU-SB113A<br>2-2.5<br>µg/kg | T-SU-SB113C<br>3.5-4<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Butanol, (R) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclotetrasiloxane, Octameth | ND | ND | ND | ND | ND | ND | ND | ND | 5,200 J |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | 11 J | ND | 13 J |
| 1 H-Pyrazole 1,5 Dimethyl | ND | ND | ND | ND | ND | ND | 52 J | ND | 24 J |
| Methane, Dichloro/Fluoro | ND | ND | ND | ND | ND | ND | ND | 230 J | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 128) | ND | 330 J/260 J/210 J | ND | ND | ND | 540 J/160 J<br>370 J/280 J | ND | 310 J/270 J<br>280 J/210 J | ND |
| Alkane (MW >1 = 42) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 152) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 156) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 198) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclohexane Methyl | ND | ND | ND | 200 J | ND | ND | ND | ND | ND |
| Cyclopropane, 1,1,2,2-Tetram | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- (3-Ethyloxianyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanone-1-Oxiranyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend
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NA - Not analyzed.
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X - Dupliate sample (i.e., SB201X)

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TABLE C-1

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
MIXED-ACID SUMP - PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE NINE

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB114A<br>1-1.5<br>µg/kg | T-SU-SB114B<br>2-2.5<br>µg/kg | T-SU-SB114C<br>3.5-4<br>µg/kg | T-SU-SB115A<br>1-1.5<br>µg/kg | T-SU-SB115B<br>2-2.5<br>µg/kg | T-SU-SB115C<br>2-2.53.5-4<br>µg/kg | T-SU-SB116A<br>1-1.5<br>µg/kg | T-SU-SB116B<br>2-2.5<br>µg/kg | T-SU-SB116C<br>3.5-4<br>µg/kg | T-SU-BB001A<br>Surface<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND | 13 J |
| 2-Butanol, (R) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclotetrasiloxane, Octameth | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1 H-Pyrazole 1,5 Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Methane, Dichloro/Fluoro | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | |
| Alkane (MW > 1 = 128) | ND | 270 J/250 J | ND | ND | ND | ND | ND | 270 J/410 J/370 J | ND | ND |
| Alkane (MW >1 = 42) | ND | 210 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 152) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 156) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW > 1 = 198) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclohexane Methyl | 160 J | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyclopropane, 1,1,2,2-Tetram | ND | ND | ND | ND | ND | ND | 220 J | ND | ND | ND |
| Ethanol, 2-Butoxy | 1,100 J | ND | ND | 1,900 J | ND | ND | ND | ND | ND | ND |
| Ethanone, 1- (3-Ethyloxianyl | ND | ND | ND | ND | ND | ND | 1,600 J | ND | ND | ND |
| Ethanone, 1- Oxiranyl | ND | ND | ND | ND | ND | ND | 220 J | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | 500 J | ND | ND | 980 J | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | 560 J | ND | ND | ND |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend
A - Soil sample collected from 0 5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil samle collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB101A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118378

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP02219002

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 10 Date Analyzed: 02/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB101B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118403

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02249008

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 8 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB102A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118382

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP02239003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 11 Date Analyzed: 02/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB102C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118406

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP0225900I

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 5 Date Analyzed: 02/25/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB103B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118407

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02259003

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 10 Date Analyzed: 02/25/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB104B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB2

Matrix: (soil/water) SOIL  Lab Sample ID: H118408

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: 3VP02259004

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 14  Date Analyzed: 02/25/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB105A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB2

Matrix: (soil/water) SOIL  Lab Sample ID: H118385

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: 3VP02239017

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 19  Date Analyzed: 02/23/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 0  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB105B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118389

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02239019

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 10 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB106A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118412

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02259006

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 15 Date Analyzed: 02/25/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB107A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB2

Matrix: (soil/water) SOIL  Lab Sample ID: H118414

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: 3VP02259008

Level: (low/med) LOW  Date Received: 02/19/90

% Moisture: not dec. 11  Date Analyzed: 02/25/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 14898-79-4 | 2-BUTANOL, (R)- | 9.85 | 8.1 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB107C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118421

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02269007

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 7 Date Analyzed: 02/26/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB108B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118422

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02269008

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 2 Date Analyzed: 02/26/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB109B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118423

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02279001

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 11 Date Analyzed: 02/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB111A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118427

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02289003

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 8 Date Analyzed: 02/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB111B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118425

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02289001

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 8 Date Analyzed: 02/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB112A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118418

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF0225901

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 9 Date Analyzed: 02/26/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB113A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118391

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02239020

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 17 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 694-31-5 | 1H-PYRAZOLE, 1,5-DIMETHYL- | 22.00 | 52 | J |
| 2. | | ETHANOL, 2-BUTOXY- | 26.41 | 11 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB113C

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB1

Matrix: (soil/water) SOIL  Lab Sample ID: H118393

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: 3VP02239021

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 22  Date Analyzed: 02/24/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 3  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 694-31-5 | 1,5-DIMETHYL-1H-PYROAZOLE | 22.00 | 24 | J |
| 2. | 111-76-2 | ETHANOL, 2-BUTOXY- | 26.41 | 13 | J |
| 3. | 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 31.01 | 5200 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB114B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118395

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02239026

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 26 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: TSUSB115A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB1

Matrix: (soil/water) SOIL  Lab Sample ID: H118397

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: 3VP02249002

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 24  Date Analyzed: 02/24/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 0  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB115C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118399

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02249004

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 24 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB116B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118401

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02249006

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 18 Date Analyzed: 02/24/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSBB001A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121268

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03289005

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. 25 Date Analyzed: 03/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 95-16-9 | BENZOTHIAZOLE | 34.26 | 13 | J |

1F

EPA SAMPLE NO.

TSUSB101B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118403

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249007

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 8 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE (MW >/= 128) | 2.53 | 300 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.60~~ | ~~3800~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL~~ | ~~2.70~~ | ~~380~~ | ~~BJ~~ |
| 4. | | ALKANE (MW >/= 128) | 2.88 | 250 | J |
| 5. | | ALKANE (MW >/= 128) | 2.97 | 190 | J |
| 6. | | UNKNOWN | 3.40 | 710 | J |
| 7. | 17257-81-7 | ETHANONE, 1-(3-ETHYLOXIRANYL | 3.75 | 330 | J |
| 8. | | UNKNOWN | 4.00 | 710 | J |
| 9. | | UNKNOWN | 5.52 | 270 | J |
| 10. | | UNKNOWN | 6.97 | 250 | J |
| 11. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.29 | 190 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB102B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118405

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249008

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 15 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 11

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE (MW >/= 128) | 2.53 | 240 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.60~~ | ~~4300~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~2.78~~ | ~~340~~ | ~~BJ~~ |
| 4. | | ALKANE (MW >/= 128) | 2.87 | 230 | J |
| 5. | | ALKANE (MW >/= 128) | 2.97 | 170 | J |
| 6. | | UNKNOWN | 3.42 | 1500 | J |
| 7. | 17257-81-7 | ETHANONE, 1-(3-ETHYLOXIRANYL | 3.75 | 500 | J |
| 8. | | UNKNOWN | 4.00 | 300 | J |
| 9. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.68 | 850 | J |
| 10. | | UNKNOWN | 5.53 | 490 | J |
| 11. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.30 | 190 | J |

1F

EPA SAMPLE NO.

TSUSB103B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118407

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249009

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 10 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 107-87-9 | 2-PENTANONE | 2.35 | 160 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.63~~ | ~~6400~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~2.80~~ | ~~430~~ | ~~BJ~~ |
| 4. | | ALKANE (MW >/= 128) | 2.90 | 300 | J |
| 5. | | ALKANE (MW >/= 128) | 2.98 | 230 | J |
| 6. | | UNKNOWN | 3.43 | 1600 | J |
| 7. | 17257-81-7 | ETHANONE, 1-(3-ETHYLOXIRANYL | 3.75 | 480 | J |
| 8. | | UNKNOWN | 4.02 | 270 | J |
| 9. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.68 | 740 | J |
| 10. | | UNKNOWN | 5.53 | 510 | J |
| 11. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.29 | 310 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB104B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB2

Matrix: (soil/water) SOIL  Lab Sample ID: H118408

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: CIC03259001

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 14 dec.  Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/25/90

GPC Cleanup: (Y/N) N  pH:  Dilution Factor: 1.000

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| ~~1.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.55~~ | ~~1100~~ | ~~A~~ |
| 2. | | UNKNOWN | 3.37 | 980 | J |
| 3. | | UNKNOWN | 3.95 | 740 | J |
| 4. | | UNKNOWN | 4.63 | 990 | J |
| 5. | | UNKNOWN | 5.52 | 1100 | J |
| 6. | | ALKANE ( MW >/= 198) | 22.22 | 170 | J |
| 7. | | ALKANE ( MW >/= 156) | 23.80 | 180 | J |
| 8. | | ALKANE ( MW >/= 184) | 24.57 | 170 | J |
| 9. | | ALKANE ( MW >/= 152) | 24.82 | 460 | J |
| 10. | | ALKANE ( MW >/= 128) | 25.31 | 180 | J |
| 11. | | UNKNOWN | 25.72 | 440 | J |

EPA SAMPLE NO.

TSUSB106A

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118412

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP02269005

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 15 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/26/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.000

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 108-87-2 | CYCLOHEXANE, METHYL- | 6.28 | 210 | J |
| ~~2. 3404-78-2~~ | ~~2-HEXENE, 2,5-DIMETHYL~~ | ~~6.37~~ | ~~150~~ | ~~J~~ |
| ~~3. 926-82-9~~ | ~~HEPTANE, 3,5-DIMETHYL~~ | ~~7.10~~ | ~~210~~ | ~~BJ~~ |
| ~~4.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.35~~ | ~~2700~~ | ~~A~~ |
| ~~5. 3074-71-3~~ | ~~HEPTANE,2,3-DIMETHYL~~ | ~~7.60~~ | ~~270~~ | ~~BJ~~ |
| ~~6. 921-47-1~~ | ~~HEXANE, 2,3,4-TRIMETHYL~~ | ~~7.87~~ | ~~220~~ | ~~BJ~~ |

1F

EPA SAMPLE NO.

TSUSB107B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118420

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03259002

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 7 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/25/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE ( MW >/= 128) | 2.48 | 300 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.53~~ | ~~3800~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3 DIMETHYL~~ | ~~2.73~~ | ~~370~~ | ~~BJ~~ |
| 4. | | ALKANE ( MW >/= 128) | 2.82 | 270 | J |
| 5. | | ALKANE ( MW >/= 128) | 2.92 | 180 | J |
| 6. | | UNKNOWN | 3.95 | 920 | J |
| 7. | | UNKNOWN | 6.90 | 370 | J |
| 8. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.25 | 270 | J |
| 9. | | PHTHALATE | 18.49 | 280 | J |
| 10. | | PHTHALATE | 21.39 | 11000 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB108B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB3

Matrix: (soil/water) SOIL  Lab Sample ID: H118422

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: CIC03259008

Level: (low/med) LOW  Date Received: 02/19/90

% Moisture: not dec. 2 dec.  Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/26/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.000

Number TICs found: 9  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.28~~ | ~~3200~~ | ~~A~~ |
| 2. | | ALKANE (MW >/=128) | 2.60 | 220 | J |
| 3. | | ALKANE (MW >/=128) | 2.70 | 160 | J |
| 4. | | UNKNOWN | 3.82 | 1400 | J |
| 5. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.52 | 290 | J |
| 6. | | UNKNOWN | 6.90 | 230 | J |
| 7. | ~~57-10-3~~ | ~~HEXADECANOIC ACID~~ | ~~17.27~~ | ~~200~~ | ~~J~~ |
| 8. | | PHTHALATE | 21.00 | 260 | J |
| 9. | | PHTHALATE | 21.45 | 26000 | J |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB109B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB3

Matrix: (soil/water) SOIL  Lab Sample ID: H118423

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: CIC03259005

Level: (low/med) LOW  Date Received: 02/19/90

% Moisture: not dec. 11 dec.  Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/25/90

GPC Cleanup: (Y/N) N  pH:  Dilution Factor: 1.000

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.53~~ | ~~1100~~ | ~~A~~ |
| 2. | | ALKANE (MW >/= 128) | 2.82 | 240 | J |
| 3. | | ALKANE (MW >/= 128) | 2.90 | 180 | J |
| 4. | | UNKNOWN | 3.33 | 1000 | J |
| 5. | | UNKNOWN | 3.93 | 1300 | J |
| 6. | | UNKNOWN | 4.08 | 180 | J |
| 7. | | PHTHALATE | 16.29 | 350 | J |
| ~~8.~~ | ~~57-10-3~~ | ~~HEXADECANOIC ACID~~ | ~~17.24~~ | ~~300~~ | ~~J~~ |
| 9. | | PHTHALATE | 20.97 | 300 | J |
| 10. | | PHTHALATE | 21.44 | 35000 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB111B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118425

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03259006

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. 8 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/25/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE (MW >/= 128) | 2.52 | 260 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.57~~ | ~~3100~~ | ~~A~~ |
| 3. | | ALKANE (MW >/= 128) | 2.77 | 330 | J |
| 4. | | ALKANE (MW >/= 128) | 2.85 | 210 | J |
| 5. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 2.95 | 170 | J |
| 6. | | UNKNOWN | 3.98 | 680 | J |
| 7. | | PHTHALATE | 21.02 | 310 | J |
| 8. | | PHTHALATE | 21.50 | 36000 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB112B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB3

Matrix: (soil/water) SOIL  Lab Sample ID: H118521

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: CIC03259007

Level: (low/med) LOW  Date Received: 02/21/90

% Moisture: not dec. 8 dec.  Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/26/90

GPC Cleanup: (Y/N) N  pH:  Dilution Factor: 1.000

Number TICs found: 9  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALKANE (MW >/= 128) | 2.38 | 160 | J |
| 2. | ALKANE (MW >/= 128) | 2.45 | 540 | J |
| ~~3.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.52~~ | ~~5800~~ | ~~A~~ |
| ~~4. 3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL~~ | ~~2.70~~ | ~~470~~ | ~~J~~ |
| 5. | ALKANE (MW >/= 128) | 2.80 | 370 | J |
| 6. | ALKANE (MW >/= 128) | 2.90 | 280 | J |
| 7. | UNKNOWN | 3.92 | 480 | J |
| ~~8. 74381-40-1~~ | ~~PROPANOIC ACID, 2-METHYL-, 1~~ | ~~13.22~~ | ~~460~~ | ~~J~~ |
| 9. | PHTHALATE | 21.34 | 270 | J |

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EPA SAMPLE NO.

TSUSB113B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118392

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249003

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 24 dec. Date Extracted: 02/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALKANE (MW >/= 128) | 2.53 | 270 | J |
| ~~2.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.60~~ | ~~1000~~ | ~~A~~ |
| 3. | ALKANE (MW >/= 128) | 2.78 | 310 | J |
| 4. | ALKANE (MW >/= 128) | 2.88 | 280 | J |
| 5. | ALKANE (MW >/= 128) | 2.97 | 210 | J |
| 6. | UNKNOWN | 3.40 | 330 | J |
| 7. | UNKNOWN | 4.02 | 240 | J |
| 8. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.30 | 460 | J |
| 9. | PHTHALATE | 21.40 | 310 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB114B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118395

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249002

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 26 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE (MW >/= 128) | 2.52 | 250 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.60~~ | ~~4200~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL~~ | ~~2.77~~ | ~~400~~ | ~~BJ~~ |
| 4. | | ALKANE (MW >/=128) | 2.87 | 270 | J |
| 5. | | ALKANE (MW >/=142) | 2.97 | 210 | J |
| 6. | | UNKNOWN | 3.40 | 920 | J |
| 7. | | UNKNOWN | 3.98 | 620 | J |
| 8. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.67 | 240 | J |
| 9. | | UNKNOWN | 6.93 | 190 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB115B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H118398

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249004

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. 23 dec. Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.000

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| ~~1.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.58~~ | ~~3900~~ | ~~A~~ |
| 2. | | UNKNOWN | 3.40 | 1200 | J |
| 3. | | UNKNOWN | 4.00 | 500 | J |
| 4. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.67 | 520 | J |
| 5. | | UNKNOWN | 5.52 | 320 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB116B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB1

Matrix: (soil/water) SOIL  Lab Sample ID: H118401

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: CIC03249005

Level: (low/med) LOW  Date Received: 02/17/90

% Moisture: not dec. 18 dec.  Date Extracted: 02/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N  pH: 8.2  Dilution Factor: 1.000

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ALKANE (MW >/= 128) | 2.55 | 410 | J |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~2.62~~ | ~~5500~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~2.80~~ | ~~440~~ | ~~BJ~~ |
| 4. | | ALKANE (MW >/= 128) | 2.90 | 370 | J |
| 5. | | ALKANE (MW >/= 128) | 2.98 | 270 | J |
| 6. | | UNKNOWN | 3.42 | 650 | J |
| 7. | | UNKNOWN | 4.02 | 1400 | J |
| 8. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 4.70 | 580 | J |
| 9. | | UNKNOWN | 5.53 | 350 | J |
| 10. | | UNKNOWN | 6.97 | 260 | J |
| 11. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 13.30 | 600 | J |
| 12. | | PHTHALATE | 21.42 | 910 | J |

# APPENDIX C-2

# TENTATIVELY IDENTIFIED VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL - PLATING SHOP

R476911

TABLE C-2

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB201A<br>5<br>µg/kg | T-SU-SB201X<br>5<br>µg/kg | T-SU-SB201B<br>14<br>µg/kg | T-SU-SB201C<br>19<br>µg/kg | T-SU-SB202A<br>5<br>µg/kg | T-SU-SB202B<br>10<br>µg/kg | T-SU-SB202C<br>20<br>µg/kg | T-SU-SB203A<br>5<br>µg/kg | T-SU-SB203B<br>10<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | 190 J | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | 220 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl9(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
(a) Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0.5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

R476911

TABLE C-2

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE THREE

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB203C<br>20<br>µg/kg | T-SU-SB204A<br>5<br>µg/kg | T-SU-SB204B<br>10<br>µg/kg | T-SU-SB204X<br>10<br>µg/kg | T-SU-SB204C<br>19.5<br>µg/kg | T-SU-SB205A<br>5<br>µg/kg | T-SU-SB205B<br>10<br>µg/kg | T-SU-SB205C<br>20<br>µg/kg | T-SU-SB206A<br>5<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | 150 J | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | 2,600 J |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.

[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0.5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

R476911

TABLE C-2

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE FIVE

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB206C<br>10<br>µg/kg | T-SU-SB206D<br>19<br>µg/kg | T-SU-SB207A<br>5<br>µg/kg | T-SU-SB207B<br>10<br>µg/kg | T-SU-SB207C<br>20<br>µg/kg | T-SU-SB207X<br>20<br>µg/kg | T-SU-SB208A<br>5<br>µg/kg | T-SU-SB208B<br>10<br>µg/kg | T-SU-SB208C<br>20<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | 310 J | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend
A - Soil sample collected from 0 5 to 6 feet below the land surface (i e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

R476911

TABLE C-2

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE SEVEN

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB209A<br>3<br>µg/kg | T-SU-SB209B<br>10<br>µg/kg | T-SU-SB209C<br>20<br>µg/kg | T-SU-SB210A<br>5<br>µg/kg | T-SU-SB210B<br>10<br>µg/kg | T-SU-SB210C<br>20<br>µg/kg | T-SU-SB211A<br>5-5.5<br>µg/kg | T-SU-SB211X<br>4-5.5<br>µg/kg | T-SU-SB211B<br>10<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | 11 J | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | 520J | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | 680 J |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | 1,400 J | 1,400 J | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | 760 J | 320 J | 930 J |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | 210 J | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | 200 J | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1-Heptene, 5-methyl | 370 J | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | 490 J | 560 J |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | 200 J | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
(a) Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend
A - Soil sample collected from 0 5 to 6 feet below the land surface (i.e., SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

R476911

TABLE C-2

TENTATIVELY DENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA
PAGE NINE

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB211C<br>20<br>µg/kg | T-SU-SB212A<br>5<br>µg/kg | T-SU-SB212B<br>10<br>µg/kg | T-SU-SB212C<br>18<br>µg/kg | T-SU-SB213A<br>5<br>µg/kg | T-SU-SB213B<br>20<br>µg/kg | T-SU-SB214A<br>5<br>µg/kg | T-SU-SB214B<br>10<br>µg/kg | T-SU-SB215A<br>5<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | 420 J/240 J/790 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | 1,200 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | 2,200 J | 240 J | 1,200 J | 1,100 J | 1,400 J | 750 J | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | 960 J | 350 J | ND | 430 J | 330 J | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | 850 J/650 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | 320 J | ND | ND | ND | ND | ND | ND | ND |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | 650 J | 300 J | 220 J | ND | 600 J | 360 J | ND | ND | 21,000 J |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0 5 to 6 feet below the land surface (i e , SB201A)
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

R476911

TABLE C-2

**TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]**
**PLATING SHOP - BUILDING 3001**
**TINKER AIR FORCE BASE**
**OKLAHOMA CITY, OKLAHOMA**
**PAGE ELEVEN**

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB215B<br>10<br>µg/kg | T-SU-SB215C<br>20<br>µg/kg | T-SU-SB216A<br>5<br>µg/kg | T-SU-SB216B<br>10<br>µg/kg | T-SU-SB216X<br>10<br>µg/kg | T-SU-SB216C<br>20<br>µg/kg | T-SU-SB217A<br>5<br>µg/kg | T-SU-SB217B<br>10<br>µg/kg | T-SU-SB217C<br>20<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | |
| Benzothiazole | ND | 17 J | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Mono (2-ETH) | ND | 20,000 J | 7,300 J | 23,000 J | ND | ND | ND | ND | 5,700 J |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend
A - Soil sample collected from 0 5 to 6 feet below the land surface (i e , SB201A).
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i e., SB201C).
X - Dupliate sample (i.e , SB201X).

R476911

TABLE C-2

**TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS DETECTED IN SOILS[a]**
**PLATING SHOP - BUILDING 3001**
**TINKER AIR FORCE BASE**
**OKLAHOMA CITY, OKLAHOMA**
**PAGE THIRTEEN**

| Sample Number<br>Depth (ft)<br>Units | T-SU-SB218A<br>5<br>µg/kg | T-SU-SB218B<br>20<br>µg/kg | T-SU-SB218X<br>20<br>µg/kg | T-SU-SB220A<br>5<br>µg/kg | T-SU-SB220B<br>10<br>µg/kg | T-SU-SB220C<br>20<br>µg/kg | T-SU-SB221A<br>5<br>µg/kg | T-SU-SB221B<br>10<br>µg/kg | T-SU-SB221C<br>20<br>µg/kg | T-SU-BB001A<br>Surface<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| Benzothiazole | ND | ND | ND | ND | ND | ND | ND | ND | ND | 13 J |
| Ethane, 1,1,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethane, 1,2,2-Trichloro-1,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | |
| Alkane (MW > 1 = 100) | ND | ND | 100 J/190 J | ND | ND | ND | ND | 190 J | ND | ND |
| Alkane (MW >1 = 114) | ND | ND | ND | ND | ND | ND | 270 J | 210 J | ND | ND |
| Alkane (MW >1 = 184) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Brominated Unknown | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene (Iodomethyl) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 Butanol, 2-Nitroso-, Aceta | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dodecane, 2,7,10-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | | ND |
| 2-(5H)-Furanone, 5,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptadecane, 2,6-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2-4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,4-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,4-Trimethyl | ND | ND | 220 J | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 2,3,6-Trimethyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptanone, 2,4-Dimethyl | ND | ND | 350 J | ND | ND | ND | ND | ND | 390 J | ND |
| 1-Heptene, 5-methyl | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3-Heptene, 2-methyl-(E) | ND | ND | ND | ND | ND | ND | ND | 210 J | ND | ND |
| Hexadecanoic Acid | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend

J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.
[a] Samples collected March 6, 1990 to March 23, 1990.

Sample Number Legend

A - Soil sample collected from 0 5 to 6 feet below the land surface (i.e., SB201A)
B - Soil sample collected from 10 to 15 feet below land surface (i.e., SB201B).
C - Soil sample collected from 16 to 20 feet below the land surface (i.e., SB201C).
X - Dupliate sample (i.e., SB201X).

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB201A

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134469

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403099004

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 17 Date Analyzed: 03/09/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ~~ALKYLTRISILOXANE ISOMER~~ | ~~32.01~~ | ~~94~~ | ~~BJX~~ |

5/21/90 TLS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB201B

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134471

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403099006

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 16 Date Analyzed: 03/09/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 1066-40-6~~ | ~~SILANOL,TRIMETHYL-~~ | ~~14.75~~ | ~~7.4~~ | ~~J~~ |
| ~~2.~~ | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.96~~ | ~~100~~ | ~~BJX~~ |

5/21/90 JS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB202A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134473

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V3030990O2

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 19 Date Analyzed: 03/10/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 1066-40-6~~ | ~~SILANOL, TRIMETHYL~~ | ~~14.00~~ | ~~6.7~~ | ~~J~~ |
| ~~2.~~ | ~~ALKYLTRISILOXANE ISOMER~~ | ~~20.41~~ | ~~140~~ | ~~EJX~~ |

5/21/90 TCS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB202C

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134475

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403119004

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 11 Date Analyzed: 03/11/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALKYLTRISILOXANE ISOMER | 31.61 | 98 | BJX |

5/21/90 TS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB203B

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134477

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403119003

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 25 Date Analyzed: 03/11/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1.~~ | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.66~~ | ~~140~~ | ~~BJX~~ |

5/21/90 TLS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB204A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134479

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V40319006

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 18 Date Analyzed: 03/11/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.61~~ | ~~130~~ | ~~BJX~~ |
| 2. | UNKNOWN | 35.41 | 7.0 | J |

5/21/90 TS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB204XD

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134482

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403119009

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 11 Date Analyzed: 03/11/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.51~~ | ~~00~~ | ~~BJX~~ |

5/21/90 TICs

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB205A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134724

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403169009

Level: (low/med) LOW Date Received: 03/10/90

% Moisture: not dec. 22 Date Analyzed: 03/16/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | ALKYLTRISILOXANE ISOMER | 31.21 | 99 | BJX |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB205C

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134728

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189006

Level: (low/med) LOW Date Received: 03/10/90

% Moisture: not dec. 16 Date Analyzed: 03/18/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 1066-40-6~~ | ~~SILANOL, TRIMETHYL~~ | ~~14.45~~ | ~~17~~ | ~~J~~ |
| ~~2.~~ | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.38~~ | ~~96~~ | ~~BIX~~ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB206C

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134733

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189008

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. 15 Date Analyzed: 03/18/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 1066-40-6~~ | ~~SILANOL, TRIMETHYL~~ | ~~14.40~~ | ~~45~~ | ~~J~~ |
| ~~2.~~ | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.31~~ | ~~100~~ | ~~BJX~~ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB207A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135089

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03219001

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 17 Date Analyzed: 03/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | ~~1.85~~ | ~~14~~ | ~~BJ~~ |
| 2. | 1066-40-6 | SILANOL, TRIMETHYL- | 13.67 | 8.1 | BJ |
| 3. | | ALKYLTRISILOXANE ISOMER | ~~28.02~~ | ~~140~~ | ~~BJX~~ |
| 4. | | ALKYLSILOXANE ISOMER | 30.14 | 44 | BJ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB207C

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135093

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03209013

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 33 Date Analyzed: 03/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 1.93 | 20 | BJ |
| 2. | 1066-40-6 | SILANOL, TRIMETHYL- | 13.72 | 10 | J |
| 3. | | ALKYLTRISILOXANE ISOMER | 28.12 | 120 | BJX |
| 4. | | ALKYLSILOXANE ISOMER | 30.22 | 7.7 | BJ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB208A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135096

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03219006

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 13 Date Analyzed: 03/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 1.93 | 21 | BJ |
| 2. | | ALKYLTRISILOXANE ISOMER | 28.12 | 120 | BJX |
| 3. | | ALKYLSILOXANE ISOMER | 30.22 | 23 | BJ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB208C

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135080

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03199022

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 13 Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN("CARRY OVER") | 0.60 | 65 | BJZ |
| 2. | | UNKNOWN | 1.98 | 21 | BJ |
| 3. | 76-13-1 | ETHANE, 1,2,2-TRICHLORO-1,2, | 11.14 | 21 | J |
| 4. | | ALKYLTRISILOXANE ISOMER | 28.07 | 110 | BJX |
| 5. | | ALKYLSILOXANE ISOMER | 30.22 | 18 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB209B

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135098

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03219008

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 22 Date Analyzed: 03/21/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | ~~1.93~~ | ~~16~~ | ~~BJ~~ |
| 2. | | ALKYLTRISILOXANE ISOMER | 28.12 | 110 | BJX |
| 3. | | ALKYLSILOXANE ISOMER | ~~30.22~~ | ~~27~~ | ~~BJ~~ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB210A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135077

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03199016

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 22 Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | ~~UNKNOWN (CARRY OVER)~~ | ~~0.60~~ | ~~520~~ | ~~BJZ~~ |
| 2. | | UNKNOWN | ~~1.85~~ | ~~6.1~~ | BJ |
| 3. | | ALKYLTRISILOXANE ISOMER | ~~28.12~~ | 97 | BJX |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB210C

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135079

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03199019

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 15 Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN("CARRY OVER") | 0.73 | 59 | BJZ |
| 2. | | UNKNOWN | 2.02 | 13 | BJ |
| 3. | 76-13-1 | ETHANE, 1,1,2-TRICHLORO-1,2, | 11.17 | 11 | J |
| 4. | | ALKYLTRISILOXANE-ISOMER | 28.12 | 84 | BJX |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB211Y

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: H120843

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VF0320901C

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. 15 Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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EPA SAMPLE No.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TSUSB211C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120844

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP0320901I

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. 18 Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB21DB

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120847

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VF0221900S

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. 7 Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB013A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120845

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03209012

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. 14 Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB214A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120304

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03219010

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. 16 Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB215A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120908

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03229004

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. 17 Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB215C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120912

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03219009

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. 14 Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 95-16-9 | BENZOTHIAZOLE | 33.06 | 17 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB216B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121013

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP03229010

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. 17 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB216C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121014

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03229011

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. 23 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB217B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121017

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03229014

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. 11 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB218A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121076

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VF03239003

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. 16 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB119

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1C

Matrix: (soil/water) SOIL Lab Sample ID: H121077

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP0323907

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. 18 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB220B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121074

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03239001

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. 14 Date Analyzed: 03/23/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE No.

TSUSB221A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121265

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP0207B007

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. 18 Date Analyzed: 03/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE No.: TSUSE2210

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121267

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8VF0207901I

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. 16 Date Analyzed: 03/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB201A5

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB4

Matrix: (soil/water) SOIL  Lab Sample ID: H119852

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP03299002

Level: (low/med) LOW  Date Received: 03/08/90

% Moisture: not dec. 16 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/29/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 17  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 13880-90-5 | 2-BUTANOL, 2-NITROSO-, ACETA | 5.22 | 220 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.38 | 520 | BJ |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL | 6.47 | 260 | J |
| 4. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL | 6.97 | 230 | BJ |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.12 | 370 | BJ |
| 6. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.30 | 900 | BJ |
| 7. | ALDOL CONDENSATION PRODUCT | 7.47 | 5200 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.80 | 630 | BJ |
| 9. 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.87 | 240 | BJ |
| 10. 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 7.98 | 680 | BJ |
| 11. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.15 | 510 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY | 8.94 | 260 | J |
| 13. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.84 | 400 | BJ |
| 14. | UNKNOWN | 11.85 | 620 | J |
| 15. 57-10-3 | HEXADECANOIC ACID | 24.29 | 410 | J |
| 16. | UNKNOWN | 33.11 | 260 | J |
| 17. 74381-40-1 | PORPANOIC ACID, 2-METHYL-,1 | 20.27 | 370 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB201B13

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119854

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP03299004

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 15 dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/29/90

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.20 | 200 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.38 | 490 | BJ |
| 3. 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.47 | 240 | BJ |
| 4. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 6.95 | 230 | BJ |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.12 | 340 | BJ |
| 6. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL | 7.20 | 920 | BJ |
| 7. | ALDOL CONDENSATION PRODUCT | 7.47 | 5000 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.70 | 590 | BJ |
| 9. 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.87 | 240 | BJ |
| 10. 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 7.98 | 690 | BJ |
| 11. 52896-07-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.15 | 500 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY | 8.94 | 280 | J |
| 13. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.84 | 310 | BJ |
| 14. 57-10-3 | HEXADECANOIC ACID | 24.29 | 250 | J |
| 15. 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1 | 20.27 | 310 | J |

5722/90 TIs

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB202A5

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119856

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03299006

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 18 dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/30/90

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.000

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.22 | 190 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.40 | 470 | BJ |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.48 | 260 | J |
| 4. | ALKANE (MW >/= 100) | 6.97 | 220 | J |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.13 | 350 | BJ |
| 6. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.30 | 850 | BJ |
| 7. | ALDOL CONDENSATION PRODUCT | 7.47 | 5500 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.82 | 600 | BJ |
| 9. | ALKANE (MW >/= 100) | 7.98 | 630 | J |
| 10. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.17 | 490 | BJ |
| 11. 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 330 | J |
| 12. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.85 | 340 | BJ |
| 13. | UNKNOWN | 11.89 | 170 | J |
| 14. 57-10-3 | HEXADECANOIC ACID | 24.32 | 320 | J |
| 15. 74381-40-1 | PORPANOIC ACID, 2-METHYL-, 1 | 20.30 | 530 | J |

5/22/90 TCS

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB202C20

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119858

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03299008

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. 11 dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/30/90

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.000

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.25 | 220 | J |
| 2. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.40 | 530 | BJ |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.48 | 270 | BJ |
| 4. | 14919-01-8 | 3-OCTENE, (E)- | 6.67 | 170 | BJ |
| 5. | | ALKANE (MW >/= 100) | 6.97 | 250 | J |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.12 | 370 | BJ |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.28 | 930 | J |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.40 | 4600 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.78 | 610 | BJ |
| 10. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.87 | 240 | BJ |
| 11. | | ALKANE (MW >/= 100) | 7.98 | 600 | J |
| 12. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.15 | 530 | BJ |
| 13. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.92 | 200 | J |
| 14. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.82 | 360 | BJ |
| 15. | | BROMINATED UNKNOWN | 23.39 | 190 | J |
| 16. | 57-10-3 | HEXADECANOIC ACID | 24.25 | 420 | J |
| 17. | 123-79-5 | HEXANEDIOIC ACID, DIOCTYL ES | 28.57 | 190 | J |
| 18. | 6006-01-5 | 3,7,11-TRIDECATRIENENITRILE, | 33.06 | 740 | J |
| 19. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 28.24 | 390 | J |

5/22/90 T.L.

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB203B10

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB4

Matrix: (soil/water) SOIL  Lab Sample ID: H119860

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP03299010

Level: (low/med) LOW  Date Received: 03/08/90

% Moisture: not dec. 24 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/30/90

GPC Cleanup: (Y/N) N  pH: 7.5  Dilution Factor: 1.000

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 17226-65-2 | 1,3-DIOXOLANE, 2,2,4,5-TETRA | 5.28 | 220 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.45 | 470 | BJ |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.53 | 220 | J |
| 4. | ALKANE (MW >/= 100) | 7.00 | 190 | J |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.17 | 300 | BJ |
| 6. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.33 | 810 | J |
| 7. 123-42-2 | 2-PENTANONE, 4-HYDROXY-4-MET | 7.52 | 5000 | J |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.83 | 560 | BJ |
| 9. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.90 | 230 | BJ |
| 10. 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.02 | 650 | BJ |
| 11. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.10 | 500 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 330 | J |
| 13. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.85 | 480 | BJ |
| 14. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.27 | 610 | J |
| 15. 57-10-3 | HEXADECANOIC ACID | 24.29 | 470 | J |
| 16. | UNKNOWN | 28.59 | 290 | J |
| 17. | UNKNOWN | 33.07 | 220 | J |

Note #7 = Aldol condensation product

5/22/90

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB204A5

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB4

Matrix: (soil/water) SOIL  Lab Sample ID: H119862

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP03299012

Level: (low/med) LOW  Date Received: 03/08/90

% Moisture: not dec. 17 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/30/90

GPC Cleanup: (Y/N) N  pH: 7.2  Dilution Factor: 1.000

Number TICs found: 16

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.32 | 230 | J |
| 2. | | UNKNOWN | 6.48 | 390 | J |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL | 6.55 | 250 | J |
| 4. | 14850-22-7 | 3-OCTENE, (Z)- | 6.73 | 150 | J |
| 5. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 7.02 | 200 | BJ |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.10 | 340 | BJ |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL | 7.35 | 870 | J |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.55 | 5100 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.87 | 610 | BJ |
| 10. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.92 | 250 | BJ |
| 11. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 8.03 | 690 | BJ |
| 12. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.20 | 530 | BJ |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.09 | 540 | BJ |
| 14. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1- | 20.30 | 440 | J |
| 15. | 57-10-3 | HEXADECANOIC ACID | 24.32 | 370 | J |
| 16. | | UNKNOWN | 33.11 | 330 | J |

5/22/90 TLS

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB204C195

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB4

Matrix: (soil/water) SOIL  Lab Sample ID: H119865

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBF03319001

Level: (low/med) LOW  Date Received: 03/08/90

% Moisture: not dec. 8 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 03/31/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 19  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.27 | 190 | J |
| 2. | 1127-17-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.42 | 370 | BJ |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL | 6.50 | 180 | J |
| 4. | | ALKANE (MW >/= 100) | 6.98 | 160 | J |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.13 | 240 | BJ |
| 6. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL | 7.30 | 640 | BJ |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.50 | 4000 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.80 | 480 | BJ |
| 9. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.87 | 190 | BJ |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 7.98 | 550 | BJ |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.15 | 420 | BJ |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY | 8.94 | 770 | J |
| 13. | 20019-64-1 | 2(3H)-FURANONE, 5,5-DIMETHYL | 9.84 | 580 | BJ |
| 14. | 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL | 10.70 | 190 | J |
| 15. | | UNKNOWN | 11.84 | 340 | J |
| 16. | 57-10-3 | HEXADECANOIC ACID | 24.25 | 340 | J |
| 17. | | UNKNOWN | 28.57 | 150 | J |
| 18. | | UNKNOWN | 33.06 | 260 | J |
| 19. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1 | 20.24 | 460 | J |

5/29/90 TG

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB205A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB5

Matrix: (soil/water) SOIL  Lab Sample ID: H120284

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04019001

Level: (low/med) LOW  Date Received: 03/10/90

% Moisture: not dec. 21 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/01/90

GPC Cleanup: (Y/N) N  pH: 7.7  Dilution Factor: 1.000

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.27 | 260 | J |
| ~~2.~~ | ~~4337-65-9~~ | ~~HEXANEDIOIC ACID, MONO(2-ETH~~ | ~~20.61~~ | ~~2700~~ | ~~J~~ |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB205C

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB5

Matrix: (soil/water) SOIL  Lab Sample ID: H120288

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04019005

Level: (low/med) LOW  Date Received: 03/10/90

% Moisture: not dec. 16 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/01/90

GPC Cleanup: (Y/N) N  pH: 7.8  Dilution Factor: 1.000

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.37 | 200 | J |
| 2. | ALDOL CONDENSATION PRODUCT | 7.59 | 1000 | A |
| 3. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.89 | 250 | J |
| 4. | UNKNOWN | 28.24 | 230 | J |
| 5. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.69 | 25000 | J |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB206C

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB5

Matrix: (soil/water) SOIL  Lab Sample ID: H120293

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04019013

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. 15 dec.  Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 1.000

Number TICs found: 16  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.29 | 220 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.42 | 410 | J |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL | 6.50 | 230 | J |
| 4. 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 6.98 | 190 | J |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.15 | 290 | J |
| 6. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.30 | 810 | J |
| 7. | ALDOL CONDENSATION PRODUCT | 7.50 | 5000 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.82 | 380 | J |
| 9. 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.87 | 220 | J |
| 10. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL | 7.98 | 650 | J |
| 11. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.17 | 540 | J |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 310 | J |
| 13. | UNKNOWN | 23.30 | 330 | J |
| 14. 57-10-3 | HEXADECANOIC ACID | 24.29 | 220 | J |
| 15. | UNKNOWN | 28.22 | 290 | J |
| 16. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.69 | 22000 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB207A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120453

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04049005

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 17 dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/90

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.000

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.33 | 230 | J |
| 2. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.50 | 390 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.58 | 240 | BJ |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.08 | 220 | BJ |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.22 | 350 | BJ |
| 6. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.42 | 890 | J |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.58 | 4800 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.92 | 650 | BJ |
| 9. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.10 | 710 | BJ |
| 10. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 540 | BJ |
| 11. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.05 | 2100 | BJ |
| 12. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.55 | 540 | BJ |
| 13. | 57-10-3 | HEXADECANOIC ACID | 24.40 | 610 | J |
| 14. | 123-79-5 | HEXANEDIOIC ACID, DIOCTYL ES | 28.72 | 430 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1- | 20.47 | 540 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB207C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120457

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04049009

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 32 dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/90

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.000

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.38 | 250 | J |
| 2. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.53 | 400 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.63 | 310 | BJ |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.12 | 280 | BJ |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.27 | 470 | BJ |
| 6. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.43 | 1200 | BJ |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.62 | 5500 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.95 | 790 | BJ |
| 9. | 922-28-1 | HEPTANE, 3,4-DIMETHYL- | 8.00 | 310 | J |
| 10. | 2216-34-4 | OCTANE, 4-METHYL- | 8.12 | 840 | J |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.28 | 600 | BJ |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.07 | 390 | BJ |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.95 | 280 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.17 | 290 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.39 | 510 | J |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

TSUSB208A5

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120459

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04049011

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. 11 dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.000

Number TICs found: 15 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.40 | 190 | J |
| 2. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.55 | 350 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.63 | 220 | BJ |
| 4. | 14919-01-8 | 3-OCTENE, (E)- | 6.82 | 150 | BJ |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.12 | 190 | BJ |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.28 | 310 | BJ |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.45 | 850 | BJ |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.63 | 4000 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.95 | 580 | BJ |
| 10. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 8.02 | 230 | J |
| 11. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.13 | 660 | BJ |
| 12. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.30 | 510 | BJ |
| 13. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.07 | 890 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.19 | 360 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1- | 20.39 | 350 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: TSUSB208C20

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120466

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04059006

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. 13 dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 16

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.28 | 210 | J |
| 2. | 4914-91-4 | 2-PENTENE, 3,4-DIMETHYL-, (Z | 6.45 | 380 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.53 | 250 | BJ |
| 4. | 14850-22-7 | 3-OCTENE, (Z)- | 6.73 | 170 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.03 | 230 | BJ |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.18 | 380 | BJ |
| 7. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.37 | 930 | J |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.55 | 4900 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.87 | 650 | BJ |
| 10. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.93 | 250 | J |
| 11. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.05 | 700 | BJ |
| 12. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.23 | 560 | BJ |
| 13. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 350 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.12 | 520 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 310 | J |
| 16. | 57-10-3 | HEXADECANOIC ACID | 24.37 | 360 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB209B10

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120462

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04059002

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. 21 dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 7.3  Dilution Factor: 1.000

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.33 | 200 | J |
| 2. | 26232-98-4 | 2-PENTENE, 4,4-DIMETHYL- | 6.50 | 340 | J |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.58 | 260 | J |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL | 7.07 | 210 | BJ |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.23 | 360 | BJ |
| 6. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.40 | 870 | BJ |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.58 | 4800 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.92 | 560 | BJ |
| 9. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.98 | 230 | J |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.10 | 660 | BJ |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 500 | BJ |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.04 | 690 | BJ |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.95 | 310 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.17 | 2800 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.39 | 220 | J |
| 16. | 57-10-3 | HEXADECANOIC ACID | 24.40 | 350 | J |
| 17. | | UNKNOWN | 43.54 | 390 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB210A5

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120463

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBF04059003

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. 22 dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 7.3  Dilution Factor: 1.000

Number TICs found: 16  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.30 | 270 | J |
| 2. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.47 | 440 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.57 | 320 | BJ |
| 4. | 14919-01-8 | 3-OCTENE, (E)- | 6.73 | 210 | BJ |
| 5. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 7.05 | 290 | BJ |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.22 | 460 | BJ |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.38 | 1200 | BJ |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.55 | 5300 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.88 | 810 | BJ |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.07 | 870 | BJ |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.23 | 710 | BJ |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 820 | BJ |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.92 | 200 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.12 | 730 | J |
| 15. | 57-10-3 | HEXADECANOIC ACID | 24.37 | 470 | J |
| 16. | 74381-40-1 | PROPANOIC ACID, 1-METHYL-, 1- | 20.24 | 520 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB210020

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120465

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04059005

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. 15 dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 7.7  Dilution Factor: 1.000

Number TICs found: 16

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.33 | 210 | J |
| 2. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.50 | 370 | J |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.58 | 220 | J |
| 4. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 7.08 | 190 | BJ |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.23 | 320 | BJ |
| 6. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.40 | 780 | BJ |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.58 | 4900 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.92 | 540 | BJ |
| 9. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.98 | 220 | J |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.10 | 640 | BJ |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 470 | BJ |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.04 | 1400 | BJ |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.95 | 200 | BJ |
| 14. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.17 | 350 | J |
| 15. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.39 | 360 | J |
| 16. | 57-10-3 | HEXADECANOIC ACID | 24.40 | 390 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB211X

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB8

Matrix: (soil/water) SOIL  Lab Sample ID: H120843

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBF04059008

Level: (low/med) LOW  Date Received: 03/20/90

% Moisture: not dec. 15 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 10.5  Dilution Factor: 1.000

Number TICs found: 14  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.45 | 610 | J |
| 2. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.37 | 200 | J |
| 3. | | ALDOL CONDENSATION PRODUCT | 7.53 | 2700 | A |
| 4. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.88 | 570 | BJ |
| 5. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.95 | 350 | J |
| 6. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.07 | 890 | J |
| 7. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.28 | 960 | BJ |
| 8. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 1400 | J |
| 9. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.92 | 320 | J |
| 10. | 3240-09-3 | 5-HEXEN-2-ONE, 5-METHYL- | 10.12 | 250 | J |
| 11. | 108-22-5 | 1-PROPEN-2-OL ACETATE | 12.22 | 290 | J |
| 12. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.35 | 470 | J |
| 13. | 57-10-3 | HEXADECANOIC ACID | 24.39 | 490 | J |
| 14. | 620-05-3 | BENZENE, (IODOMETHYL)- | 30.44 | 520 | J |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB211C

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB8

Matrix: (soil/water) SOIL  Lab Sample ID: H120844

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04059009

Level: (low/med) LOW  Date Received: 03/20/90

% Moisture: not dec. 18 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/05/90

GPC Cleanup: (Y/N) N  pH: 8.5  Dilution Factor: 1.000

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 56336-06-2 | 2-CYCLOHEXEN-1-ONE, 3,5-DIME | 6.47 | 610 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.53 | 2500 | A |
| 3. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.07 | 840 | J |
| 4. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.28 | 910 | BJ |
| 5. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 2200 | J |
| 6. | | ALKANE (MW >/= 184) | 20.22 | 420 | J |
| 7. | | ALKANE (MW >/= 184) | 21.45 | 790 | J |
| 8. | 54105-67-8 | HEPTADECANE, 2,6-DIMETHYL- | 21.54 | 850 | J |
| 9. | 17301-32-5 | UNDECANE, 4,7-DIMETHYL- | 22.62 | 700 | J |
| 10. | 74645-98-0 | DODECANE, 2,7,10-TRIMETHYL- | 22.75 | 1200 | J |
| 11. | 29812-79-1 | HYDROXYAMINE, 0-DECYL- | 23.74 | 790 | J |
| 12. | 57-10-3 | HEXADECANOIC ACID | 24.37 | 650 | J |
| 13. | 54105-67-8 | HEPTADECANE, 2,6-DIMETHYL- | 24.80 | 600 | J |
| 14. | | ALKANE (MW >/= 198) | 25.61 | 360 | J |
| 15. | | ALKANE (MW >/= 114) | 25.82 | 290 | J |
| 16. | | ALKANE (MW >/= 184) | 26.16 | 240 | J |
| 17. | | UNKNOWN | 26.62 | 250 | J |
| 18. | 3891-98-3 | DODECANE, 2,6,10-TRIMETHYL- | 27.16 | 540 | J |
| 19. | | UNKNOWN | 28.07 | 290 | J |
| 20. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1 | 28.34 | 490 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB212B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB8

Matrix: (soil/water) SOIL  Lab Sample ID: H120847

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04069003

Level: (low/med) LOW  Date Received: 03/20/90

% Moisture: not dec. 7 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N  pH: 7.9  Dilution Factor: 1.000

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.52 | 490 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.58 | 2200 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.93 | 230 | BJ |
| 4. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.98 | 230 | J |
| 5. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 8.10 | 620 | J |
| 6. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 730 | BJ |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.05 | 1200 | J |
| 8. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.95 | 350 | J |
| 9. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.39 | 390 | J |
| 10. | 57-10-3 | HEXADECANOIC ACID | 24.40 | 220 | J |
| 11. | | UNKNOWN | 30.46 | 540 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB213A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB8

Matrix: (soil/water) SOIL  Lab Sample ID: H120845

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04069001

Level: (low/med) LOW  Date Received: 03/20/90

% Moisture: not dec. 14 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N  pH: 6.3  Dilution Factor: 1.000

Number TICs found: 13  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.53 | 580 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.58 | 2400 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.93 | 490 | BJ |
| 4. | 15869-93-9 | OCTANE, 3,5-DIMETHYL- | 7.98 | 270 | J |
| 5. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.10 | 740 | J |
| 6. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.28 | 850 | BJ |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.05 | 1400 | J |
| 8. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.95 | 430 | J |
| 9. | 57-10-3 | HEXADECANOIC ACID | 24.42 | 600 | J |
| 10. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.72 | 180 | J |
| 11. | | UNKNOWN | 30.49 | 2000 | J |
| 12. | | UNKNOWN | 43.61 | 460 | J |
| 13. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1- | | | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSBC14A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120904

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069011

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. 16 dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.000

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 763-93-9 | 3-HEXEN-2-ONE | 6.47 | 220 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.53 | 920 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.88 | 290 | BJ |
| 4. | 921-47-1 | HEXANE, 2,2,4-TRIMETHYL- | 8.07 | 410 | J |
| 5. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.23 | 460 | BJ |
| 6. | | UNKNOWN | 28.31 | 200 | J |
| 7. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.74 | 22000 | J |
| 8. | | UNKNOWN | 30.44 | 3800 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB215A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1 ,  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H120908

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04069015

Level: (low/med) LOW  Date Received: 03/21/90

% Moisture: not dec. 17 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N  pH: 7.8  Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| ~~1.~~ | ~~625-65-0~~ | ~~2-PENTENE, 2,4-DIMETHYL~~ | ~~6.40~~ | ~~270~~ | ~~J~~ |
| ~~2.~~ | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.53~~ | ~~1100~~ | ~~A~~ |
| ~~3.~~ | ~~3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~7.88~~ | ~~340~~ | ~~BJ~~ |
| ~~4.~~ | ~~3074-77-9~~ | ~~HEXANE, 3-ETHYL-4-METHYL-~~ | ~~7.95~~ | ~~180~~ | ~~J~~ |
| ~~5.~~ | ~~2213-23-2~~ | ~~HEPTANE, 2,4-DIMETHYL-~~ | ~~8.07~~ | ~~480~~ | ~~BJ~~ |
| ~~6.~~ | ~~52896-87-4~~ | ~~HEPTANE, 4-(1-METHYLETHYL)-~~ | ~~8.23~~ | ~~500~~ | ~~BJ~~ |
| 7. | | UNKNOWN | 28.27 | 220 | J |
| 8. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.72 | 21000 | J |
| 9. | | UNKNOWN | 30.41 | 1200 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB2150

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H120912

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04109004

Level: (low/med) LOW  Date Received: 03/21/90

% Moisture: not dec. 14 dec.  Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/09/90

GPC Cleanup: (Y/N) N  pH: 8.3  Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 4127-47-3~~ | ~~CYCLOPROPANE, 1,1,2,2-TETRAM~~ | ~~6.50~~ | ~~210~~ | ~~J~~ |
| ~~2.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.57~~ | ~~940~~ | ~~A~~ |
| ~~3. 3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL~~ | ~~7.90~~ | ~~260~~ | ~~BJ~~ |
| ~~4. 921-47-1~~ | ~~HEXANE, 2,3,4-TRIMETHYL~~ | ~~8.08~~ | ~~380~~ | ~~J~~ |
| ~~5. 52896-87-4~~ | ~~HEPTANE, 4-(1-METHYLETHYL)~~ | ~~8.27~~ | ~~430~~ | ~~BJ~~ |
| ~~6. 111-76-2~~ | ~~ETHANOL, 2-BUTOXY-~~ | ~~9.01~~ | ~~430~~ | ~~J~~ |
| ~~7. 57-10-3~~ | ~~HEXADECANOIC ACID~~ | ~~24.39~~ | ~~280~~ | ~~J~~ |
| 8. | UNKNOWN | 28.32 | 180 | J |
| 9. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.74 | 20000 | J |

9. Adipate ester

5/30/90 TLS

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB216B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H121013

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04109010

Level: (low/med) LOW  Date Received: 03/22/90

% Moisture: not dec. 17 dec.  Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/09/90

GPC Cleanup: (Y/N) N  pH: 7.5  Dilution Factor: 1.000

Number TICs found: 17  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.32 | 240 | J |
| ~~2. 4127-47-3~~ | ~~CYCLOPROPANE, 1,1,2,2-TETRAM~~ | ~~5.50~~ | ~~370~~ | ~~J~~ |
| ~~3. 692-70-6~~ | ~~3-HEXENE, 2,5-DIMETHYL-, (E)~~ | ~~6.58~~ | ~~230~~ | ~~J~~ |
| ~~4. 2213-23-2~~ | ~~HEPTANE, 2,4-DIMETHYL-~~ | ~~7.07~~ | ~~250~~ | ~~J~~ |
| ~~5. 1072-05-5~~ | ~~HEPTANE, 2,6-DIMETHYL-~~ | ~~7.22~~ | ~~410~~ | ~~J~~ |
| ~~6. 4032-93-3~~ | ~~HEPTANE, 2,3,6-TRIMETHYL-~~ | ~~7.38~~ | ~~1000~~ | ~~BJ~~ |
| ~~7.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.57~~ | ~~5400~~ | ~~A~~ |
| ~~8. 3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~7.90~~ | ~~700~~ | ~~BJ~~ |
| ~~9. 3074-77-9~~ | ~~HEXANE, 2-ETHYL-4-METHYL-~~ | ~~7.97~~ | ~~270~~ | ~~J~~ |
| ~~10. 2213-23-2~~ | ~~HEPTANE, 2,4-DIMETHYL-~~ | ~~8.08~~ | ~~770~~ | ~~J~~ |
| ~~11. 52896-67-1~~ | ~~HEPTANE, 4-(1-METHYLETHYL)-~~ | ~~8.25~~ | ~~610~~ | ~~BJ~~ |
| ~~12. 111-76-2~~ | ~~ETHANOL, 2-BUTOXY-~~ | ~~9.04~~ | ~~260~~ | ~~J~~ |
| ~~13. 20019-64-1~~ | ~~2(5H)-FURANONE, 5,5-DIMETHYL-~~ | ~~9.92~~ | ~~190~~ | ~~BJ~~ |
| 14. | UNKNOWN | 11.25 | 260 | J |
| ~~15. 57-10-3~~ | ~~HEXADECANOIC ACID~~ | ~~24.39~~ | ~~580~~ | ~~J~~ |
| 16. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.72 | 23000 | J |
| 17. | UNKNOWN | 30.44 | 1700 | J |

16. Adipate ester

5/30/90

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB216C

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H121014

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04109025

Level: (low/med) LOW  Date Received: 03/22/90

% Moisture: not dec. 23 dec.  Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/10/90

GPC Cleanup: (Y/N) N  pH: 7.7  Dilution Factor: 1.000

Number TICs found: 18  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.33 | 240 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.50 | 430 | J |
| 3. 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.50 | 300 | J |
| 4. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL | 7.07 | 260 | BJ |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.22 | 420 | J |
| 6. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.38 | 1100 | BJ |
| 7. | ALDOL CONDENSATION PRODUCT | 7.57 | 5600 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.90 | 740 | BJ |
| 9. | ALKANE (MW +/- 100) | 7.95 | 300 | J |
| 10. 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.07 | 820 | J |
| 11. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL) | 8.23 | 610 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.02 | 670 | J |
| 13. 3377-86-4 | HEXANE, 2-BROMO- | 9.55 | 1400 | J |
| 14. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.92 | 1400 | BJ |
| 15. 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 10.80 | 1000 | J |
| 16. 26118-38-7 | 2-HEXANONE, 3,3-DIMETHYL- | 11.24 | 1200 | J |
| 17. | UNKNOWN | 11.95 | 1800 | J |
| 18. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.31 | 370 | J |

5/30/90 CS

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB217B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121017

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBF04109030

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. 11 dec. Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/10/90

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.000

Number TICs found: 18

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.48 | 370 | BJ |
| 2. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.22 | 410 | J |
| 3. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.38 | 1000 | J |
| 4. 123-42-2 | 2-PENTANONE, 4-HYDROXY-4-MET | 7.57 | 5100 | J |
| 5. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.90 | 700 | BJ |
| 6. 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.08 | 770 | J |
| 7. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.25 | 600 | BJ |
| 8. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.04 | 850 | J |
| 9. 3377-86-4 | HEXANE, 2-BROMO- | 9.55 | 490 | J |
| 10. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.92 | 790 | BJ |
| 11. 18641-71-2 | 3-HEPTANONE, 2,4-DIMETHYL- | 10.80 | 640 | J |
| 12. 562-49-2 | PENTANE, 3,3-DIMETHYL- | 11.25 | 100 | J |
| 13. | UNKNOWN | 11.95 | 480 | J |
| 14. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.87 | 590 | J |
| 15. | ALKANE (MW >/= 156) | 21.47 | 540 | J |
| 16. | ALKANE (MW >/= 156) | 22.61 | 520 | J |
| 17. 57-10-3 | HEXADECANOIC ACID | 21.39 | 480 | J |
| 18. 54105-67-8 | HEPTADECANE, 2,6-DIMETHYL- | 23.75 | 490 | J |

5/30/90 TS

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB218A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H121076

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBF04119007

Level: (low/med) LOW  Date Received: 03/23/90

% Moisture: not dec. 16 dec.  Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH: 7.8  Dilution Factor: 1.000

Number TICs found: 19  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.28 | 200 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.45 | 330 | J |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL | 6.53 | 250 | BJ |
| 4. 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.18 | 990 | J |
| 5. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL | 7.37 | 900 | BJ |
| 6. | ALDOL CONDENSATION PRODUCT | 7.53 | 5200 | A |
| 7. 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.87 | 620 | BJ |
| 8. 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.93 | 240 | J |
| 9. 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 8.05 | 660 | J |
| 10. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL) | 8.28 | 180 | BJ |
| 11. 111-76-2 | ETHANOL, 2-BUTOXY | 9.00 | 840 | J |
| 12. 3377-86-4 | HEXANE, 2-BROMO- | 9.54 | 1700 | J |
| 13. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.90 | 1400 | BJ |
| 14. 562-49-2 | PENTANE, 3,3-DIMETHYL | 11.22 | 410 | J |
| 15. | UNKNOWN | 11.94 | 920 | J |
| 16. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 430 | J |
| 17. 57-10-3 | HEXADECANOIC ACID | 21.85 | 250 | J |
| 18. | UNKNOWN | 11.99 | 400 | J |
| 19. | UNKNOWN | 11.74 | 260 | J |

5/30/90 TCS

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB218X

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB10

Matrix: (soil/water) SOIL  Lab Sample ID: H121077

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04119009

Level: (low/med) LOW  Date Received: 03/23/90

% Moisture: not dec. 18 dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 17  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.28 | 230 | J |
| 2. 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.45 | 380 | J |
| 3. 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.55 | 210 | BJ |
| 4. | ALKANE (MW >/= 100) | 7.03 | 190 | J |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.18 | 310 | BJ |
| 6. 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.35 | 760 | J |
| 7. | ALDOL CONDENSATION PRODUCT | 7.55 | 4900 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.87 | 560 | BJ |
| 9. 52896-95-4 | HEPTANE, 2,3,4-TRIMETHYL- | 7.93 | 220 | J |
| 10. | ALKANE (MW >/= 100) | 8.05 | 660 | J |
| 11. 52896-27-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.22 | 490 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 1200 | J |
| 13. 3377-86-4 | HEXANE, 2-BROMO- | 9.52 | 210 | J |
| 14. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.92 | 810 | J |
| 15. 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 10.79 | 350 | J |
| 16. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 330 | J |
| 17. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.66 | 180 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB220B

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB9

Matrix: (soil/water) SOIL  Lab Sample ID: H121074

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04119004

Level: (low/med) LOW  Date Received: 03/23/90

% Moisture: not dec. 14 dec.  Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 18

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 625-65-0 | 2-PENTENE, 2,4-DIMETHYL | 6.13 | 410 | J |
| 2. 3404-78-2 | 2 HEXENE, 2,5 DIMETHYL | 6.58 | 320 | BJ |
| 3. 1072-05-5 | HEPTANE, 2,6-DIMETHYL | 7.18 | 440 | J |
| 4. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL | 7.35 | 1100 | J |
| 5. | ALDOL CONDENSATION PRODUCT | 7.58 | 5000 | A |
| 6. 3074-71-3 | HEPTANE, 2,2-DIMETHYL | 7.85 | 740 | BJ |
| 7. 2213-23-2 | HEPTANE, 2,4-DIMETHYL | 8.03 | 830 | J |
| 8. 52896-07-4 | HEPTANE, 4-(1-METHYLETHYL) | 8.20 | 630 | BJ |
| 9. 111-76-2 | ETHANOL, 2-BUTOXY | 8.99 | 820 | J |
| 10. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.89 | 610 | BJ |
| 11. | ALKANE (MW +/- 226) | 20.20 | 310 | J |
| 12. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.84 | 510 | J |
| 13. 629-78-7 | HEPTADECANE | 21.44 | 890 | J |
| 14. 544-76-3 | HEXADECANE | 22.60 | 850 | J |
| 15. | ALKANE (MW +/- 268) | 22.72 | 790 | J |
| 16. 57-10-3 | HEXADECANOIC ACID | 24.35 | 490 | J |
| 17. | ALKANE (MW +/- 156) | 24.77 | 430 | J |
| 18. 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL | 10.77 | 300 | J |

5/30/40 TICs

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB221A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB10

Matrix: (soil/water) SOIL  Lab Sample ID: H121265

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04139008

Level: (low/med) LOW  Date Received: 03/24/90

% Moisture: not dec. 18 dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N  pH: 8.0  Dilution Factor: 1.000

Number TICs found: 15  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.25 | 250 | J |
| 2. 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.43 | 130 | J |
| 3. 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.52 | 270 | J |
| 4. 14850-22-7 | 3-OCTENE, (Z)- | 6.70 | 180 | J |
| 5. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.02 | 240 | BJ |
| 6. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.17 | 370 | BJ |
| 7. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.35 | 990 | BJ |
| 8. | ALDOL CONDENSATION PRODUCT | 7.53 | 5200 | A |
| 9. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.85 | 670 | BJ |
| 10. | ALKANE (MW >/= 114) | 7.92 | 270 | J |
| 11. 3221-61-2 | OCTANE, 2-METHYL- | 8.03 | 760 | J |
| 12. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.20 | 610 | BJ |
| 13. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 450 | J |
| 14. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 9.90 | 150 | J |
| 15. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.24 | 200 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB2210

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB10

Matrix: (soil/water) SOIL  Lab Sample ID: H121267

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04139010

Level: (low/med) LOW  Date Received: 03/24/90

% Moisture: not dec. 16 dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N  pH: 8.5  Dilution Factor: 1.000

Number TICs found: 17  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 5.27 | 190 | J |
| 2. 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.45 | 420 | J |
| 3. 3404-70-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.53 | 210 | J |
| 4. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.02 | 190 | BJ |
| 5. 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.18 | 290 | BJ |
| 6. 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.35 | 800 | BJ |
| 7. | ALDOL CONDENSATION PRODUCT | 7.53 | 4600 | A |
| 8. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.87 | 490 | BJ |
| 9. 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.93 | 210 | BJ |
| 10. 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.05 | 590 | BJ |
| 11. 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.22 | 430 | BJ |
| 12. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 500 | J |
| 13. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.90 | 690 | J |
| 14. 18641-71-9 | 3-HEPTANONE, 2,4-DIMETHYL- | 10.79 | 390 | J |
| 15. | UNKNOWN | 11.94 | 370 | J |
| 16. 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 250 | J |
| 17. | UNKNOWN | 11.97 | 220 | J |

# APPENDIX C-3

## TENTATIVELY IDENTIFIED VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER - PLATING SHOP

R476911

TABLE C-3

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS IN GROUNDWATER
PLATING SHOP - BUILDING 3001
TINKER AIR FORCE BASE
OKLAHOMA CITY, OKLAHOMA

| Sample Number<br>Location<br>Units | T-GW-MWI55A<br>MW-I55<br>µg/L | T-GW-MWI56A<br>MW-I56<br>µg/L | T-GW-MWI57A<br>MW-I57<br>µg/L | T-GW-SB201A<br>SB201<br>µg/kg | T-GW-SB202A<br>SB202<br>µg/kg | T-GW-SB202X<br>SB202<br>µg/kg | T-GW-SB203A<br>SB203<br>µg/kg | T-GW-SB207A<br>SB207<br>µg/kg | T-GW-SB209A<br>SB209<br>µg/kg | T-GW-SB210A<br>SB210<br>µg/kg |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| Acetic Acid, Methyl Ester | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Alkyltrisiloxaxe Isomer | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Dimethyl Ethylbenzene Isomer | ND | 10 J | ND | ND | ND | ND | ND | ND | ND | ND |
| Furan, Tetrahydro | ND | ND | 18 J | ND | ND | ND | ND | ND | ND | ND |
| Methane, Trichlorofluro | ND | ND | ND | ND | ND | ND | 24 J | ND | ND | ND |
| 2-Propanol | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Unknown/Methylene Chloci | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | |
| Aldol Condensation Product | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2-Cyclohexen-1-One | ND | ND | 5 J | ND | ND | ND | ND | ND | ND | ND |
| Cyclotri Siloxane, Hexamethyl | ND | ND | ND | 450 J | ND | ND | ND | ND | ND | ND |
| Ethanol, 2-Butoxy | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane, 3,5-Dimethyl | ND | ND | ND | ND | ND | ND | 340 J | ND | ND | ND |
| Hexadonic Acid, Mono (2-ETH) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Hexanedioic Acid, Dioctyl ES | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Octamethyl-Cyclotetrasiloxan | ND | ND | ND | 240 J | ND | ND | ND | ND | ND | ND |
| Octane, 2-Methyl | ND | ND | ND | ND | ND | ND | 130 J | ND | ND | ND |
| Octane, 3-Methyl | ND | ND | ND | ND | ND | ND | 170 J | ND | ND | ND |
| Propanoic Acid, 2-Methyl-,1 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 3,7,11-Tridecatrienenttrile | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Data Qualifier Legend
J - The associated numerical value is an estimated quantity.
NA - Not analyzed.
ND - Not detected.

Sample Number Legend
A - First sampling event - March 6, 1990 to March 22, 1990 (i.e., SB201A).
X - Duplicate sample (i.e., SB201X).

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TGWMW155A

Lab Name: NUS-LSG  Contract: _____

Lab Code: NUS  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB-6

Matrix: (soil/water) SOIL  Lab Sample ID: P134876

Sample wt/vol: 2.0 (g/mL) mL  Lab File ID: VIA03189010

Level: (low/med) LOW  Date Received: 03/13/90

% Moisture: not dec. _____  Date Analyzed: 03/19/90

Column (pack/cap) PACK  Dilution Factor: 1.0

Number TICs found: 4  CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN("CARRY OVER") | 0.57 | 690 | BJ |
| 2. | | UNKNOWN | 1.98 | 34 | BJ |
| ~~3.~~ | ~~1066-40-6~~ | ~~SILANOL,TRIMETHYL~~ | ~~13.80~~ | ~~21~~ | ~~J~~ |
| ~~4.~~ | | ~~ALKYLTRISILOXANE ISOMER~~ | ~~28.12~~ | ~~240~~ | ~~BJX~~ |

6/1/90 TLS

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TBWMA15TA

Lab Name: NUS HOUSTON Contract: 4M41C

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121309

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: JVP0329001

Level: (low/med) LOW Date Received: 03/28/90

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-99-9 | FURAN, TETRAHYDRO- | 10.70 | 18 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB202A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134487

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V4C3119015

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. ____ Date Analyzed: 03/12/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. ~~1066-40-6~~ | ~~SILANOL, TRIMETHYL-~~ | ~~14.55~~ | ~~7.4~~ | ~~I~~ |
| 2. | ~~ALKYLTRISILOXANE ISOMER~~ | ~~31.56~~ | ~~81~~ | ~~BJX~~ |

5/21/90 JS

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TGWSB20JA

Lab Name: NUS-LSG  Contract: _____

Lab Code: NUS  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFB-4

Matrix: (soil/water) SOIL  Lab Sample ID: P134729

Sample wt/vol: 5.0 (g/mL) G  Lab File ID: V4O3189004

Level: (low/med) LOW  Date Received: 03/10/90

% Moisture: not dec. _____  Date Analyzed: 03/18/90

Column (pack/cap) PACK  Dilution Factor: 1.0

Number TICs found: 4  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 75-69-4 | METHANE, TRICHLOROFLUORO- | 8.60 | 24 | J |
| 2. 1066-40-6 | SILANOL, TRIMETHYL- | 14.40 | 16 | J |
| 3. | ALKYLTRISILOXANE ISOMER | 31.31 | 86 | BJX |
| 4. | ALKYLSILOXANE ISOMER | 36.21 | 8.9 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TGWSB209A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135085

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03209008

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 1.98 | 15 | BJ |
| 2. | | ALKYLTRISILOXANE ISOMER | 28.16 | 82 | BJX |

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB011A

Lab Name: NUS HOUSTON Contract: 4M41C

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120850

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VF0221900?

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. ____ Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PSC 10/16

TGW[illegible]4

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB[illegible]

Matrix: (soil/water) SOIL Lab Sample ID: H120[illegible]

Sample wt/vol: 5.0 (g/mL) G Lab File ID: [illegible]

Level: (low/med) LOW Date Received: [illegible]

% Moisture: not dec. _____ Date Analyzed: [illegible]

Column (pack/cap) PACKED Dilution Factor: 10.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB214A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120914

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VF03219016

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. _____ Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 2.99

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TGWSB215X

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120915

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP03229001

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. ____ Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 67-63-0 | 2-PROPANOL (ACN) | 8.35 | 13 | J |
| 2. | | UNKNOWN | 24.00 | 8.0 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
DEO 10/91
GW
TSUSB218A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121080

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP03279004

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

B

1F

EPA SAMPLE NO.

TGWMWI55A

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB6

Matrix: (soil/water) WATER Lab Sample ID: H120322

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04039003

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. dec. Date Extracted: 03/20/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 26.32 | 59 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWMW157A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBP04129013

Level: (low/med) LOW Date Received: 03/26/90

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 7.93 | 14 | J |
| 2. | 930-68-7 | 2-CYCLOHEXEN-1-ONE | 9.64 | 5.0 | J |
| 3. | | UNKNOWN | 14.95 | 19 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB202A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119870

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03319008

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/31/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.000

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | ~~111-76-2~~ | ~~ETHANOL, 2-BUTOXY-~~ | ~~8.99~~ | ~~220~~ | ~~J~~ |

5/22/90 RS

B 1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TGWSB203A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Matrix: (soil/water) SOIL Lab Sample ID: H120289

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP04019008

Level: (low/med) LOW Date Received: 03/10/90

% Moisture: not dec. dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/01/90

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 3221-61-2 | OCTANE, 2-METHYL- | 7.15 | 130 | J |
| 2. 926-82-9 | HEPTANE, 3,5-DIMETHYL- | 7.33 | 340 | J |
| 3. | ALDOL CONDENSATION PRODUCT | 7.48 | 2100 | A |
| 4. 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.83 | 220 | J |
| 5. 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 8.02 | 230 | J |
| 6. 2216-33-3 | OCTANE, 3-METHYL- | 8.18 | 170 | J |
| 7. | UNKNOWN | 8.97 | 280 | J |
| 8. | UNKNOWN | 28.24 | 230 | J |
| 9. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.67 | 44000 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TGWSB209A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120471

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04039012

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N  pH: 7.6  Dilution Factor: 1.000

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.42 | 230 | J |
| 2. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.15 | 160 | BJ |
| 3. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.32 | 400 | J |
| 4. | | ALDOL CONDENSATION PRODUCT | 7.50 | 2800 | A |
| 5. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.83 | 300 | BJ |
| 6. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.02 | 350 | BJ |
| 7. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.18 | 260 | BJ |
| 8. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.35 | 1300 | BJ |
| 9. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.87 | 270 | BJ |
| 10. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.90 | 390 | J |

B

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB211A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120850

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BF04069007

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 4127-47-3 | ~~CYCLOPROPANE, 1,1,2,2-TETRAM~~ | ~~6.53~~ | ~~190~~ | ~~J~~ |
| 2. | | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.58~~ | ~~830~~ | ~~A~~ |
| 3. | 3074-71-3 | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~7.95~~ | ~~250~~ | ~~BJ~~ |
| 4. | 921-47-1 | ~~HEXANE, 2,3,4-TRIMETHYL-~~ | ~~8.12~~ | ~~360~~ | ~~J~~ |
| 5. | 52896-87-4 | ~~HEPTANE, 4-(1-METHYLETHYL)-~~ | ~~8.28~~ | ~~380~~ | ~~BJ~~ |
| 6. | 57-10-3 | HEXADECANOIC ACID | 24.42 | 340 | J |
| 7. | 4337-65-9 | ~~HEXANEDIOIC ACID, MONO(2-ETH~~ | ~~28.74~~ | ~~6800~~ | ~~J~~ |

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB213A PEG 10/91

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120848

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069005

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.000

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 8

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 4127-47-3 | ~~CYCLOPROPANE, 1,1,2,2-TETRAM~~ | ~~6.52~~ | ~~210~~ | ~~J~~ |
| 2. | ~~ALDOL~~ CONDENSATION ~~PRODUCT~~ | ~~7.58~~ | ~~870~~ | ~~A~~ |
| 3. 3074-71-3 | ~~HEPTANE, 2,3-DIMETHYL-~~ | ~~7.92~~ | ~~260~~ | ~~BJ~~ |
| 4. 921-47-1 | ~~HEXANE, 2,3,4-TRIMETHYL-~~ | ~~8.10~~ | 380 | J |
| 5. 52896-87-4 | ~~HEPTANE,~~ 4-(1-METHYLETHYL)- | 8.27 | 430 | BJ |
| 6. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.05 | 340 | J |
| 7. 74381-40-1 | ~~PROPANOIC ACID,~~ 2-METHYL-, 1 | 20.39 | 240 | ~~BJ~~ |
| 8. | UNKNOWN | ~~28.72~~ | ~~140~~ | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB214A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120914

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04109006

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/09/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 763-93-9 | 3-HEXEN-2-ONE | 6.45 | 190 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.52 | 880 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL | 7.87 | 270 | BJ |
| 4. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL | 7.93 | 150 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL | 8.05 | 380 | J |
| 6. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.23 | 430 | BJ |
| 7. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 180 | BJ |

5/30/90 TJ

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TGWSB215X

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120915

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04109008

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/09/90

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| ~~1. 4359-77-7~~ | ~~2-PENTANONE, 3-METHYLENE~~ | ~~6.50~~ | ~~180~~ | ~~J~~ |
| ~~2.~~ | ~~ALDOL CONDENSATION PRODUCT~~ | ~~7.50~~ | ~~880~~ | ~~A~~ |
| ~~3. 3074-71-3~~ | ~~HEPTANE, 2,3-DIMETHYL~~ | ~~7.93~~ | ~~250~~ | ~~BJ~~ |
| ~~4. 921-47-1~~ | ~~HEXANE, 2,3,4-TRIMETHYL~~ | ~~8.10~~ | ~~360~~ | J |
| ~~5. 52896-87-4~~ | ~~HEPTANE, 4-(1-METHYLETHYL)-~~ | ~~8.28~~ | ~~100~~ | ~~BJ~~ |

5/30/90 TCS

B 1F

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TGWSB218A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121080

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP04169018

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 04/16/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/17/90

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.20 | 220 | J |
| 2. 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL- | 10.12 | 180 | BJ |
| 3. 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.92 | 320 | J |

# APPENDIX E

# RISK ASSESSMENT CALCULATIONS

RISK ASSESSMENT SPREADSHEET - DIRECT DERMAL CONTACT WITH SOIL

SITE NAME: TINKER AIR FORCE BASE - PLATING SHOP
LOCATION: OKLAHOMA CITY, OKLAHOMA
DATE: 10/10/91

EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)

RELEVANT EQUATIONS: DEX = (C x SA x AF x ABS x EF x ED)/(BW x AT x LT x 1E6)

ASSUMPTIONS: ADULT:

| | | | |
|---|---|---|---|
| C | = CONCENTRATION IN SOIL (MG/KG) | | |
| SA | = EXPOSED SURFACE AREA OF SKIN (SQ CM/DAY): | | 2948 |
| AF | = ADHERENCE FACTOR (MG/SQ CM): | | 1.45 |
| ABS | = ABSORPTION FRACTION: (DECIMAL FRACTION) | VOCS: | .1 |
| | | BNAS/PESTICIDES: | .05 |
| | | PCBS: | .03 |
| EF1 | = YOUTH EXPOSURE FREQUENCY (DAYS/YEAR) | | 0 |
| EF2 | = ADULT EXPOSURE FREQUENCY (DAYS/YEAR): | | 12 |
| ED | = ADULT EXPOSURE DURATION (YEARS): | | 1 |
| BW1 | = BODY WEIGHT ADOLESCENT (KG): | | 0 |
| BW2 | = BODY WEIGHT ADULT (KG): | | 70 |
| AT | = AVERAGING TIME (DAYS/YEAR): | | 365 |
| LT | = LIFETIME (YEARS): | | 70 |

DETERMINE CONVERSION FACTORS:
DEX = (C)*(1MG/1000 UG)*(SA SQ CM)*(AF MG/SQ CM)*(ABS)*(EF DAYS/YEAR)/(AT DAYS/YEAR)/(BW KG)/(1 KG/1E6 MG)*

DOSEyouth = (CF1)*(C)*(ABS) CF1 = 0 * ED AND LT ARE USED FOR CARCINOGENIC RISK CALCULATION ONLY.
DOSEadult = (CF2)*(C)*(ABS) CF2 = 2.008e-9 (NOT USED IN CONVERSION FACTORS)

RISK ASSESSMENT SPREADSHEET - DIRECT DERMAL CONTACT WITH SOIL (PAGE THREE)
TINKER AIR FORCE BASE - PLATING SHOP
EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)
DETERMINE HAZARD INDICES AND CANCER RISK:

| CHEMICAL | HAZARD INDEX YOUTH | HAZARD INDEX ADULT | CANCER RISK LIFETIME |
|---|---|---|---|
| Acetone | 0 | 2.208e-8 | 0 |
| 2-Butanone | 0 | 2.249e-8 | 0 |
| 1,1,1-Trichloroethane | 0 | 6.469e-9 | 0 |
| Tetrachloroethene | 0 | 1.164e-7 | 8.48e-13 |
| Trichloroethene | 0 | 0 | 9.15e-14 |
| 1,2-Dichloroethene | 0 | 2.811e-8 | 0 |
| Methylene chloride | 0 | 1.506e-8 | 9.68e-14 |
| Bis(2-ethylhexyl)phthalate | 0 | 9.034e-7 | 3.61e-12 |
| Di-n-octylphthalate | 0 | 2.008e-8 | 0 |
| Di-n-butylphthalate | 0 | 4.417e-8 | 0 |
| Diethylphthalate | 0 | 8.78e-10 | 0 |
| Fluoranthene | 0 | 1.280e-7 | 0 |
| Benzoic acid | 0 | 1.054e-9 | 0 |
| Arsenic | 0 | 0 | 0 |
| Barium | 0 | 0 | 0 |
| Chromium (VI) | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| Manganese | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| Vanadium | 0 | 0 | 0 |
| Zinc | 0 | 0 | 0 |
| Cobalt | 0 | 0 | 0 |
| Selenium | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| TOTAL | 0 | 1.308e-6 | 4.65e-12 |

RISK ASSESSMENT SPREADSHEET - INCIDENTAL INGESTION OF SOIL (PAGE TWO)
TINKER AIR FORCE BASE - PLATING SHOP
EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)
CALCULATE DOSES:

| CHEMICAL | C (MG/KG) | YOUTH DOSE (MG/KG/DAY) | ADULT DOSE (MG/KG/DAY) | TIME-WEIGHTED DOSE (MG/KG/DAY) | RFD (MG/KG/DAY) | CSF (KG-DAY/MG) |
|---|---|---|---|---|---|---|
| Acetone | .011 | 0 | 2.48e-10 | 3.54e-12 | 1e-1 | |
| 2-Butanone | .0056 | 0 | 1.26e-10 | 1.80e-12 | 5e-2 | |
| 1,1,1-Trichloroethane | .0029 | 0 | 6.54e-11 | 9.34e-13 | 9e-2 | |
| Tetrachloroethene | .0058 | 0 | 1.31e-10 | 1.87e-12 | 1e-2 | 5.1e-2 |
| Trichloroethene | .0029 | 0 | 6.54e-11 | 9.34e-13 | | 1.1e-2 |
| 1,2-Dichloroethene | .0028 | 0 | 6.31e-11 | 9.02e-13 | 2e-2 | |
| Methylene chloride | .0045 | 0 | 1.01e-10 | 1.45e-12 | 6e-2 | 7.5e-3 |
| Bis(2-ethylhexyl)phthalate | .18 | 0 | 4.058e-9 | 5.80e-11 | 2e-2 | 1.4e-2 |
| Di-n-octylphthalate | .004 | 0 | 9.02e-11 | 1.29e-12 | .02 | |
| Di-n-butylphthalate | .044 | 0 | 9.92e-10 | 1.42e-11 | 1e-1 | |
| Diethylphthalate | .007 | 0 | 1.58e-10 | 2.25e-12 | .8 | |
| Fluoranthene | .051 | 0 | 1.150e-9 | 1.64e-11 | .04 | |
| Benzoic acid | .042 | 0 | 9.47e-10 | 1.35e-11 | 4 | |
| Arsenic | 2.3 | 0 | 5.185e-8 | 7.41e-10 | 1e-3 | |
| Barium | 333 | 0 | 7.507e-6 | 1.072e-7 | .05 | |
| Chromium (VI) | 26.6 | 0 | 5.997e-7 | 8.567e-9 | 5e-3 | |
| | | 0 | 0 | 0 | | |
| Manganese | 465 | 0 | 1.048e-5 | 1.498e-7 | .1 | |
| | | 0 | 0 | 0 | | |
| Vanadium | 26.2 | 0 | 5.907e-7 | 8.438e-9 | 7e-3 | |
| Zinc | 32.7 | 0 | 7.372e-7 | 1.053e-8 | 2e-1 | |
| Cobalt | 8.5 | 0 | 1.916e-7 | 2.737e-9 | 8e-3 | 3.4e-1 |
| Selenium | .25 | 0 | 5.636e-9 | 8.05e-11 | 1e-3 | 2.4e-1 |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |

RISK ASSESSMENT SPREADSHEET - DIRECT DERMAL CONTACT WITH SOIL

SITE NAME: TINKER AIR FORCE BASE - MIXED ACID SUMP
LOCATION: OKLAHOMA CITY, OKLAHOMA
DATE: 10/10/91

EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)

RELEVANT EQUATIONS: DEX = (C x SA x AF x ABS x EF x ED)/(BW x AT x LT x 1E6)

ASSUMPTIONS: ADULT:

| | | | |
|---|---|---|---|
| C | = CONCENTRATION IN SOIL (MG/KG) | | |
| SA | = EXPOSED SURFACE AREA OF SKIN (SQ CM/DAY): | | 2948 |
| AF | = ADHERENCE FACTOR (MG/SQ CM): | | 1.45 |
| ABS | = ABSORPTION FRACTION: (DECIMAL FRACTION) | VOCS: | .1 |
| | | BNAS/PESTICIDES: | .05 |
| | | PCBS: | .03 |
| EF1 | = YOUTH EXPOSURE FREQUENCY (DAYS/YEAR) | | 0 |
| EF2 | = ADULT EXPOSURE FREQUENCY (DAYS/YEAR): | | 12 |
| ED | = ADULT EXPOSURE DURATION (YEARS): | | 1 |
| BW1 | = BODY WEIGHT ADOLESCENT (KG): | | 0 |
| BW2 | = BODY WEIGHT ADULT (KG): | | 70 |
| AT | = AVERAGING TIME (DAYS/YEAR): | | 365 |
| LT | = LIFETIME (YEARS): | | 70 |

DETERMINE CONVERSION FACTORS:
DEX = (C)*(1MG/1000 UG)*(SA SQ CM)*(AF MG/SQ CM)*(ABS)*(EF DAYS/YEAR)/(AT DAYS/YEAR)/(BW KG)/(1 KG/1E6 MG)*

DOSEyouth = (CF1)*(C)*(ABS) CF1 = 0 * ED AND LT ARE USED FOR CARCINOGENIC RISK CALCULATION ONLY.
DOSEadult = (CF2)*(C)*(ABS) CF2 = 2.008e-9 (NOT USED IN CONVERSION FACTORS)

RISK ASSESSMENT SPREADSHEET - DIRECT DERMAL CONTACT WITH SOIL (PAGE THREE)
TINKER AIR FORCE BASE - MIXED ACID SUMP
EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)
DETERMINE HAZARD INDICES AND CANCER RISK:

| CHEMICAL | HAZARD INDEX YOUTH | HAZARD INDEX ADULT | CANCER RISK LIFETIME |
|---|---|---|---|
| 2-Butanone | 0 | 2.650e-8 | 0 |
| Tetrachloroethene | 0 | 6.424e-8 | 4.68e-13 |
| 1,2-Dichloroethene | 0 | 2.610e-8 | 0 |
| Bis(2-ethylhexyl)phthalate | 0 | 9.034e-7 | 3.61e-12 |
| Di-n-octylphthalate | 0 | 3.011e-8 | 0 |
| Di-n-butylphthalate | 0 | 1.706e-7 | 0 |
| Butylbenzylphthalate | 0 | 1.255e-8 | 0 |
| Diethylphthalate | 0 | 2.133e-8 | 0 |
| Acenaphthene | 0 | 4.517e-8 | 0 |
| Anthracene | 0 | 1.004e-8 | 0 |
| Benzo(a)anthracene | 0 | 0 | 4.29e-11 |
| Benzo(b)fluoranthene | 0 | 0 | 5.43e-11 |
| Benzo(a)pyrene | 0 | 0 | 2.31e-10 |
| Chrysene | 0 | 0 | 2.04e-12 |
| Fluoranthene | 0 | 4.266e-7 | 0 |
| Indeno(1,2,3-cd)pyrene | 0 | 0 | 3.96e-11 |
| Pyrene | 0 | 5.354e-7 | 0 |
| Pentachlorophenol | 0 | 7.027e-7 | 3.61e-11 |
| Phenanthrene | 0 | 2.438e-6 | 0 |
| | 0 | 0 | 0 |
| Cadmium | 0 | 0 | 0 |
| Chromium (VI) | 0 | 0 | 0 |
| Mercury | 0 | 0 | 0 |
| Nickel | 0 | 0 | 0 |
| Silver | 0 | 0 | 0 |
| Cyanide | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| TOTAL | 0 | 5.413e-6 | 4.10e-10 |

RISK ASSESSMENT SPREADSHEET - INCIDENTAL INGESTION OF SOIL (PAGE TWO)
TINKER AIR FORCE BASE - MIXED ACID SUMP
EXPOSURE SCENARIO: EXPOSURE TO SUBSURFACE SOIL CONTAMINANTS - ADULT EMPLOYEE (CONSTRUCTION)
CALCULATE DOSES:

| CHEMICAL | C (MG/KG) | YOUTH DOSE (MG/KG/DAY) | ADULT DOSE (MG/KG/DAY) | TIME-WEIGHTED DOSE (MG/KG/DAY) | RFD (MG/KG/DAY) | CSF (KG-DAY/MG) |
|---|---|---|---|---|---|---|
| 2-Butanone | .0066 | 0 | 1.49e-10 | 2.13e-12 | 5e-2 | |
| Tetrachloroethene | .0032 | 0 | 7.21e-11 | 1.03e-12 | 1e-2 | 5.1e-2 |
| 1,2-Dichloroethene | .0026 | 0 | 5.86e-11 | 8.37e-13 | 2e-2 | |
| Bis(2-ethylhexyl)phthalate | .18 | 0 | 4.058e-9 | 5.80e-11 | 2e-2 | 1.4e-2 |
| Di-n-octylphthalate | .006 | 0 | 1.35e-10 | 1.93e-12 | 2e-2 | |
| Di-n-butylphthalate | .17 | 0 | 3.832e-9 | 5.47e-11 | 1e-1 | |
| Butylbenzylphthalate | .025 | 0 | 5.64e-10 | 8.05e-12 | 2e-1 | |
| Diethylphthalate | .17 | 0 | 3.832e-9 | 5.47e-11 | 8e-1 | |
| Acenaphthene | .027 | 0 | 6.09e-10 | 8.70e-12 | 6e-2 | |
| Anthracene | .03 | 0 | 6.76e-10 | 9.66e-12 | 3e-1 | |
| Benzo(a)anthracene | .064 | 0 | 1.443e-9 | 2.06e-11 | | 4.67e-1 |
| Benzo(b)fluoranthene | .084 | 0 | 1.894e-9 | 2.71e-11 | | 4.51e-1 |
| Benzo(a)pyrene | .05 | 0 | 1.127e-9 | 1.61e-11 | | 3.22e0 |
| Chrysene | .1 | 0 | 2.254e-9 | 3.22e-11 | | 1.42e-2 |
| Fluoranthene | .17 | 0 | 3.832e-9 | 5.47e-11 | 4e-2 | |
| Indeno(1,2,3-cd)pyrene | .037 | 0 | 8.34e-10 | 1.19e-11 | | 7.47e-1 |
| Pyrene | .16 | 0 | 3.607e-9 | 5.15e-11 | 3e-2 | |
| Pentachlorophenol | .21 | 0 | 4.734e-9 | 6.76e-11 | 3e-2 | 1.2e-1 |
| Phenanthrene | .17 | 0 | 3.832e-9 | 5.47e-11 | 7e-3 | |
| | | 0 | 0 | 0 | | |
| Cadmium | 24.8 | 0 | 5.591e-7 | 7.987e-9 | 5e-4 | |
| Chromium (VI) | 52.5 | 0 | 1.184e-6 | 1.691e-8 | 5e-3 | |
| Mercury | .14 | 0 | 3.156e-9 | 4.51e-11 | 3e-4 | |
| Nickel | 416 | 0 | 9.378e-6 | 1.340e-7 | 2e-2 | |
| Silver | 2.7 | 0 | 6.087e-8 | 8.70e-10 | 3e-3 | |
| Cyanide | .79 | 0 | 1.781e-8 | 2.54e-10 | 2e-2 | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | | |

| NUS CORPORATION AND SUBSIDIARIES | | | STANDARD CALCULATION SHEET |
|---|---|---|---|
| CLIENT: Hazwrap | FILE NO: 4N41 | BY: KAS | PAGE 1 OF 3 |
| SUBJECT: Incidental Ingestion of Soil | | CHECKED BY: | DATE: 10/10/91 |

## Objective

Determin intakes & carcinogenic/noncarcinogenic risks through incidental ingestion of subsurface soil.

## Relevant Equation

$$\text{Intake} = \frac{CS \times IR \times CF \times FI \times EF \times ED}{BW \times AT}$$

where: CS = chemical concentration in soil (mg/kg)
IR = ingestion rate (mg soil/day)
CF = conversion factor ($10^{-6}$ kg/mg)
FI = fraction ingested from contaminated source (decimal)
EF = exposure frequency (days/yr)
ED = exposure duration (years)
BW = body weight (kg)
AT = averaging time (days)

## Assumptions

IR = 480 mg/day (short-term construction)
FI = 0.1 (10%)
EF = 12 days/yr (construction)
ED = 1 year (single lifetime exposure)
BW = 70 kg (adult)
AT = 365 days/yr (noncarcinogenic)
365 x 70 year (lifetime) (carcinogenic)

## Sample Calculations

Bis(2-ethylhexyl) phthalate; CS = 0.180 mg/kg

| CLIENT: Fmr WRAP | FILE NO.: 4M41 | BY: KQS | PAGE 3 OF 3 |
|---|---|---|---|
| SUBJECT: Incidental Ingestion of Soil | | CHECKED BY: | DATE: 10/10/91 |

References (Cont)

Risk Assessment Guidance for Superfund - Vol I Human Health Evaluation Manual - Supplemental Guidance "Standard Default Exposure Factors". Interim Final. USEPA, Wash, D.C. OSWER 9285.6-03, March 1991.

## Sample Calculations:

Bis(2-ethylhexyl)phthalate; CS = 0.180 mg/kg

Noncarcinogenic Risk:

Intake =

$$\left(0.180\ \frac{mg}{kg}\right)\left(10^{-6}\ \frac{kg}{mg}\right)\left(2{,}948\ \frac{cm^2}{day}\right)(0.05)\left(1.45\ \frac{mg}{cm^2}\right)\left(12\ \frac{days}{yr}\right)\left(\frac{1}{70\ kg}\right)\left(\frac{1\ year}{365\ days}\right)$$

$$= 1.8 \times 10^{-8}\ mg/kg/day \checkmark$$

Hazard Quotient = Intake / Reference Dose

$$HQ = 1.8 \times 10^{-8}\ mg/kg/day \,/\, 2.0 \times 10^{-2}\ mg/kg/day$$

$$HQ = 9.0 \times 10^{-7} \checkmark$$

Carcinogenic Risk:

Intake =

$$\left(0.180\ \frac{mg}{kg}\right)\left(10^{-6}\ \frac{kg}{mg}\right)\left(2948\ \frac{cm^2}{day}\right)(0.05)\left(1.45\ \frac{mg}{cm^2}\right)\left(12\ \frac{days}{yr}\right)\left(1\ year\right)\left(\frac{1}{70\ kg}\right)\left(\frac{1\ year}{365\ days}\right)\left(\frac{1}{70\ year}\right)$$

$$= 2.6 \times 10^{-10}\ mg/kg/day \checkmark$$

Incremental Cancer Risk = Intake x Cancer Slope Factor

$$= 2.6 \times 10^{-10}\ mg/kg/day\ (1.4 \times 10^{-2}\ mg/kg/day)$$

$$Risk = 3.6 \times 10^{-12} \checkmark$$

| NUS CORPORATION AND SUBSIDIARIES | | | STANDARD CALCULATION SHEET |
|---|---|---|---|
| CLIENT: Hazwrap | FILE NO.: 4M41 | BY: AEH | PAGE 1 OF 4 |
| SUBJECT: Calculation of Reference Doses | | CHECKED BY: KAS | DATE: 10/16/91 |

Calculation of Reference Doses:

Apply uncertainty factors, as follows:

10 - population variation
10 - animals → humans
10 - subchronic study
10 - LOAEL instead of NOAEL
1 - modifying value

cobalt

$$TD_{LO} = \frac{75\ mg/kg}{10000} = 7.5 \times 10^{-3} = 8 \times 10^{-3}\ mg/kg/day$$

selenium

$$TD_{LO} = \frac{134\ mg/kg}{10,000} = 1.3 \times 10^{-2} = 1 \times 10^{-2}\ mg/kg/day$$

phenanthrene

$$TD_{LO} = \frac{71\ mg/kg}{10,000} = 7.1 \times 10^{-3} = 7 \times 10^{-3}\ mg/kg/day$$

MSHA STANDARD-air:TWA 0.2 mg(Se)/m3; DTLVS* 3,224,71; Doc Threshold Limit Values
OSHA PEL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist
OSHA PEL FINAL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist

SELENIOUS ACID, DISODIUM SALT mixed with alpha-TOCOPHEROL see:95520

SELENIOUS ACID (H2SeO3), DISODIUM SALT mixed with VITAMIN E see:95520

TOXICITY DATA HAVE NOT BEEN EVALUATED.
OMISSION OF A SUBSTANCE OR NOTATION DOES NOT IMPLY ANY RELIEF FROM REGULATORY RESPONSIBILITY.



95521. SELENIOUS ACID, MONOSODIUM SALT
RTECS #: VS7500000 UPDATE: 8909 CAS #: 7782-82-3 MW: 150.96 MF: H-O3-Se.Na
SYNONYMS: HYDROGEN SODIUM SELENITE * HYDROGEN SODIUM SELENIUM OXIDE * SODIUM HYDROGEN TRIOXOSELENITE * SODIUM HYDROSELENITE * SODIUM SELENITE (7CI)
STATUS:
EPA GENETOX PROGRAM 1988, Positive: B subtilis rec assay

SELENIOUS ANHYDRIDE see:95528

95522. SELENIUM
RTECS #: VS7700000 UPDATE: 9104 CAS #: 7782-49-2 MW: 78.96 MF: Se
SYNONYMS: C.I. 77805 * COLLOIDAL SELENIUM * ELEMENTAL SELENIUM * SELEN (Polish) * SELENATE * SELENIUM (ACGIH,DOT) * SELENIUM ALLOY * SELENIUM BASE * SELENIUM DUST * SELENIUM ELEMENTAL * SELENIUM HOMOPOLYMER * UN 2658 (DOT) * VANDEX
REPRODUCTIVE EFFECTS DATA AND REFERENCES:
oral;
mouse; TDLo:134 mg/kg (multigenerations); EFFECTS ON EMBRYO OR FETUS(Fetotoxicity; fetal death); AEHLAU 23,102,71; Arch Environ Health
TUMORIGENIC DATA AND REFERENCES:
oral;
mouse; TDLo:480 mg/kg/60D-C; TUMORIGENIC(Equivocal tumorigenic agent by RTECS criteria); SKIN AND APPENDAGES (Tumors); YMBUA7 11,368,60; Yokohama Med Bull
TOXICITY DATA AND REFERENCES:
inhalation;
rat; LDLo:33 mg/kg/8H; BLOOD(Hemorrhage); LUNGS, THORAX OR RESPIRATION(Emphysema; Acute pulmonary edema); AMIHBC 4,458,51; AMA Arch Ind Hyg Occup Med
intravenous;
rat; LD50:6 mg/kg; DETAILS NOT REPORTED ; AMIHBC 4,458,51; AMA Arch Ind Hyg Occup Med
rabbit; LDLo:2500 ug/kg; DETAILS NOT REPORTED ; JOBSAK 35,693,28; J Obstet Gynaecol Br Emp
oral;
rat; LD50:6700 mg/kg; BEHAVIORAL(Somnolence); LUNGS, THORAX OR RESPIRATION(Dyspnea); NUTRITIONAL AND GROSS METABOLIC(Other changes); TXAPA9 20,89,71; Toxicol Appl Pharmacol
unreported route ;
frog; LDLo:3 mg/kg; TOXIC EFFECTS NOT YET REVIEWED; PHREA7 23,305,43; Physiol Rev
LITERATURE REVIEW:
ACGIH THRESHOLD LIMIT VALUE-TWA 0.2 mg/m3; 85INA8 5,517,86; Doc Threshold Limit Values
IARC CANCER REVIEW:HUMAN INADEQUATE EVIDENCE; IMEMDT 9,245,75; IARC Monogr Eval Carcinog Risk Chem Man
ANIMAL INADEQUATE EVIDENCE; IMEMDT 9,245,75; IARC Monogr Eval Carcinog Risk Chem Man
GROUP 3; IMSUDL 7,56,87; IARC Monogr Suppl
TOXICOLOGY REVIEW; CTOXAO 6,459,73; Clin Toxicol
CTOXAO 5,175,72; Clin Toxicol
CRTXB2 4(3),271,76; CRC Crit Rev Toxicol
JAVMA4 164,277,74; J Am Vet Med Assoc
CTOXAO 5,151,72; Clin Toxicol
IJMDAI 10,416,74; Isr J Med Sci
JAMAAP 116,562,41; JAMA J Am Med Assoc
CHREAY 28,179,41; Chem Rev
ADTEAS 5,51,72; Adv Teratol
PHREA7 23,305,43; Physiol Rev
FOREAE 7,313,42; Food Res
KOTTAM 11,1300,75; Kogai To Taisaku
BSCVA2 1,83,70; Oncology 1970 Proc 10th Int Cancer Congr 1971
PERTAR 12,102,69; Prog Exp Tumor Res
BNYMAM 54,413,78; Bull N Y Acad Med

TOXICITY DATA HAVE NOT BEEN EVALUATED.
OMISSION OF A SUBSTANCE OR NOTATION DOES NOT IMPLY ANY RELIEF FROM REGULATORY RESPONSIBILITY.



AMTOBM 3,209,77; Adv Med Toxicol
JEPTHQ 4(1),193,80; J Environ Pathol Toxicol
MEHYDY 5,877,79; Med Hypotheses
CTOXAO 17,171,80; Clin Toxicol
IACTDZ 5(1),45,86; J Am Coll Toxicol
STANDARDS AND REGULATIONS:
DOT-IMO:POISON B; LABEL:ST. ANDREWS CROSS; CFRGBR 49,172.102,88; Code Fed Regul
MSHA STANDARD-air:TWA 0.2 mg(Se)/m3; DTLVS* 3,224,71; Doc Threshold Limit Values
OSHA PEL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist
OSHA PEL FINAL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist
NIOSH STANDARD DEVELOPMENT AND SURVEILLANCE DATA:
NATIONAL OCCUPATIONAL HAZARD SURVEY 1974: Hazard#: 68295; number of industries: 8; total number of facilities: 403; number of occupations: 10; total number of employees: 2147
NATIONAL OCCUPATIONAL EXPOSURE SURVEY 1983: Hazard#: X2074000; total number of facilities: 2; number of industries: 105; number of occupations: 2; total number of employees: 105
STATUS:
ATSDR TOXICOLOGY PROFILE (NTIS** PB/90/182155/AS)
EPA TSCA CHEMICAL INVENTORY, JUNE 1990
EPA TSCA SECTION 8.e) STATUS REPORT 8EHQ-0680-0345
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, MARCH 1991
NIOSH ANALYTICAL METHODS: see ELEMENTS (ICP) 7300
OSHA ANALYTICAL METHOD #ID-125G

95523. SELENIUM, (4-ACETAMIDOPHENYL)DIHYDROXY-
RTECS #: VS7800000 UPDATE: 8910 CAS #: 63981-20-4 MW: 248.16 MF: C8-H11-N-O3.Se
SYNONYMS: BIS-4-ACETAMINO-PHENYL SELENIUM DIHYDROXIDE
TUMORIGENIC DATA AND REFERENCES:
oral;
rat; TDLo:2890 mg/kg/15W-C; TUMORIGENIC(Equivocal tumorigenic agent by RTECS criteria); ENDOCRINE(Thyroid tumors); SCIEAS 103,762,46; Science
LITERATURE REVIEW:
ACGIH THRESHOLD LIMIT VALUE-TWA 0.2 mg(Se)/m3; 85INA8 5,517,86; Doc Threshold Limit Values
TOXICOLOGY REVIEW; FCTXAV 9,105,71; Food Cosmet Toxicol
STANDARDS AND REGULATIONS:
MSHA STANDARD-air:TWA 0.2 mg(Se)/m3; DTLVS* 3,224,71; Doc Threshold Limit Values
OSHA PEL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist
OSHA PEL FINAL:8H TWA 0.2 mg(Se)/m3; FEREAC 54,2923,89; Fed Regist

SELENIUM (ACGIH,DOT) see:95522

SELENIUM ALLOY see:95522

# APPENDIX D

# GROUNDWATER, SOIL, AND WASTE SAMPLE DATA VALIDATION SUMMARIES AND SUPPORTING QA/QC DATA

# APPENDIX D-1

# GROUNDWATER AND SOIL SAMPLE DATA VALIDATION SUMMARIES

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-168

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990

**FROM:** TOM ECKLE

**COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB1

**SAMPLES:**

Soil: T-SU-

| | | |
|---|---|---|
| SB101A | SB105C | SB115A |
| SB101X | SB113A | SB115B |
| SB102A | SB113B | SB115C |
| SB103A | SB113C | SB116A |
| SB104A | SB114A | SB116B |
| SB105X | SB114B | SB116C |
| SB105B | SB114C | |

NUS Laboratories analyzed 20 soil samples (including two pair of field duplicates) for Target Compound List (TCL) volatiles. Twelve of these samples were also analyzed for TCL semivolatile compounds. No field, trip or rinsate blanks were included in this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory and blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Field duplicate precision
- Sample quantitation
- Detection limits

Data which did not meet quality criteria are discussed below.

Volatile Fraction

The majority of the samples analyzed were found to be free of

affected are considered to be unreliable and have been rejected, qualified "R".

Some continuing calibration Percent Differences (%Ds) for 4-methyl-2-pentanone and 2-hexanone exceeded 50%. No positive results were reported for these compounds in affected samples. Non-detects in affected samples are qualified as estimated, "UJ".

Some continuing calibration %Ds for several compounds exceeded the ±25% quality control limit. No qualifications were made, however, as no positive results were reported for these compounds in affected samples.

Positive results reported for total-1,2-dichloroethene are qualified "J", as estimated, as they are below the CRQL.

No qualifications were made for Tentatively Identified Compounds (TICs) as no TICs were detected in any of the blanks analyzed with this sample set.

Semivolatile Fraction

The majority of samples analyzed were found to be free of semivolatile contamination. Concentrations below the CRQL were found for diethylphthalate in sample T-SU-SB114B; and for pentachlorophenol in sample T-SU-SB113A. Diethylphthalate and di-n-butyl phthalate were detected in sample T-SU-SB104A at concentrations below the CRQL. Several compounds at levels below the CRQL were detected in sample T-SU-SB116B.

A maximum concentration of 46 ug/kg of the common blank contaminant bis(2-ethylhexyl)phthalate was detected in laboratory method blanks analyzed with this sample set. The positive result for bis(2-ethylhexyl)phalate in sample T-SU-SB116B has been qualified as undetected (i.e. value has been replaced by the CRQL followed by a "U".)

The 30% Relative Standard Deviation (RSD) initial calibration criteria was exceeded for 3,3'-dichlorobenzidine. No qualifications were made as no positive sample results were reported for this compound.

The continuing calibration %D for benzo(g,h,i)perylene exceeded 50%. Only sample T-SU-SB101A was affected. The non-detect for benzo(g,h,i)perylene in this sample is qualified as estimated, "UJ".

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB1

TABLE 1 - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB101A | | $J^{3}$ |
| T-SU-SB101X | | |
| T-SU-SB102A | | |
| T-SU-SB103A | $A^{1}$ | |
| T-SU-SB104A | | $J^{2}$ |
| T-SU-SB105X | $A^{2}$ | |
| T-SU-SB105B | $A^{1,2,3,4}$, $R^{1}$ | |
| T-SU-SB105C | $A^{1,2}$, $R^{1}$, $J^{1}$ | |
| T-SU-SB113A | $A^{1,2,3}$, $R^{1}$ | $J^{2}$ |
| T-SU-SB113B | $A^{1,2,4}$, $R^{1}$, $J^{1,2}$ | - |
| T-SU-SB113C | $A^{1,2,3}$, $R^{1}$ | |
| T-SU-SB114A | $A^{1,2,3}$, $R^{1}$ | |
| T-SU-SB114B | $A^{1,2,3}$, $R^{1}$ | $J^{2}$ |
| T-SU-SB114C | $A^{2,3}$, $R^{1}$, $J^{2}$ | |
| T-SU-SB115A | $A^{1,2,3,5}$, $R^{1}$ | |
| T-SU-SB115B | $A^{2,3}$, $R^{1}$ | |
| T-SU-SB115C | $A^{1,2,3,5}$, $J^{2}$ | |
| T-SU-SB116A | $A^{1,2,3}$, $R^{1}$ | |
| T-SU-SB116B | $A^{1,2,3}$, $R^{1}$ | $A^{5}$ |
| T-SU-SB116C | $A^{1,2}$, $R^{1}$, $J^{2}$ | |

$A^{1}$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCJ

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCJ

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02239007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/23/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 5 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 1 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 2 | J |
| 100-42-5 | Styrene | 2 | J |
| 1330-20-7 | Xylene (total) | 5 | J |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKC8

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKC8

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02249002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/24/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCL

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCL

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02269004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/26/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 1 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 2 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCJ

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCJ

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02239007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/23/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 5 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 1 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 2 | J |
| 100-42-5 | Styrene | 2 | J |
| 1330-20-7 | Xylene (total) | 5 | J |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKC8

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKC8

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02249002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/24/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCL

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCL

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02269004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/26/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 1 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 2 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Instrument ID: 4500B Calibration date: 02/23/90 Time: 2312

Lab File ID: 3VT02239008 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.141 | 2.129 | 0.6 | # |
| Bromomethane | | 1.638 | 1.743 | -6.4 | |
| Vinyl Chloride | * | 2.160 | 2.277 | -5.4 | * |
| Chloroethane | | 1.217 | 1.209 | 0.7 | |
| Methylene Chloride | | 1.821 | 1.848 | -1.5 | |
| Acetone | | 1.183 | 1.477 | -24.9 | |
| Carbon Disulfide | | 3.819 | 3.881 | -1.6 | |
| 1,1-Dichloroethene | * | 1.212 | 1.362 | -12.4 | * |
| 1,1-Dichloroethane | # | 1.959 | 1.727 | 11.8 | # |
| 1,2-Dichloroethene (total) | | 1.212 | 1.246 | -2.8 | |
| Chloroform | * | 2.249 | 2.334 | -3.8 | * |
| 1,2-Dichloroethane | | 1.374 | 1.436 | -4.5 | |
| 2-Butanone | | 0.035 | (0.039) | -11.4 | |
| 1,1,1-Trichloroethane | | 0.492 | 0.504 | -2.4 | |
| Carbon Tetrachloride | | 0.469 | 0.489 | -4.3 | |
| Vinyl Acetate | | 0.477 | 0.486 | -1.9 | |
| Bromodichloromethane | | 0.519 | 0.534 | -2.9 | |
| 1,2-Dichloropropane | * | 0.256 | 0.260 | -1.6 | * |
| cis-1,3-Dichloropropene | | 0.517 | 0.533 | -3.1 | |
| Trichloroethene | | 0.421 | 0.437 | -3.8 | |
| Dibromochloromethane | | 0.569 | 0.615 | -8.1 | |
| 1,1,2-Trichloroethane | | 0.310 | 0.333 | -7.4 | |
| Benzene | | 0.838 | 0.864 | -3.1 | |
| trans-1,3-Dichloropropene | | 0.272 | 0.287 | -5.5 | |
| Bromoform | # | 0.460 | 0.516 | -12.2 | # |
| 4-Methyl-2-Pentanone | | 0.318 | 0.364 | -14.5 | |
| 2-Hexanone | | 0.250 | 0.280 | -12.0 | |
| Tetrachloroethene | | 0.419 | 0.422 | -0.7 | |
| 1,1,2,2-Tetrachloroethane | # | 0.525 | 0.581 | -10.7 | # |
| Toluene | * | 0.662 | 0.668 | -0.9 | * |
| Chlorobenzene | # | 0.935 | 0.950 | -1.6 | # |
| Ethylbenzene | * | 0.456 | 0.447 | 2.0 | * |
| Styrene | | 0.987 | 0.965 | 2.2 | |
| Xylene (total) | | 0.601 | 0.603 | -0.3 | |
| Toluene-d8 | | 2.108 | 0.979 | (53.6) | ← |
| BFB | | 1.233 | 0.580 | (53.0) | ← |
| 1,2-Dichloroethane-d4 | | 2.741 | 1.285 | (53.1) | ← |

samples affected:
SB105B
SB113A
SB113C
SB114A
SB114B

← Initial RRF

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Instrument ID: 4500B Calibration date: 02/24/90 Time: 1215

Lab File ID: 3VT02249001 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.141 | 1.733 | 19.1 | # |
| Bromomethane | | 1.638 | 1.187 | 27.5 | |
| Vinyl Chloride | * | 2.160 | 1.830 | 15.3 | * |
| Chloroethane | | 1.217 | 0.852 | 30.0 | |
| Methylene Chloride | | 1.821 | 1.649 | 9.4 | |
| Acetone | | 1.183 | 2.107 | -78.1 | |
| Carbon Disulfide | | 3.819 | 3.723 | 2.5 | |
| 1,1-Dichloroethene | * | 1.212 | 1.483 | -22.4 | * |
| 1,1-Dichloroethane | # | 1.959 | 1.613 | 17.7 | # |
| 1,2-Dichloroethene (total) | | 1.212 | 1.129 | 6.8 | |
| Chloroform | * | 2.249 | 2.022 | 10.1 | * |
| 1,2-Dichloroethane | | 1.374 | 1.255 | 8.7 | |
| 2-Butanone | | 0.035 | 0.064 | -82.9 | |
| 1,1,1-Trichloroethane | | 0.492 | 0.515 | -4.7 | |
| Carbon Tetrachloride | | 0.469 | 0.534 | -13.9 | |
| Vinyl Acetate | | 0.477 | 0.563 | -18.0 | |
| Bromodichloromethane | | 0.519 | 0.558 | -7.5 | |
| 1,2-Dichloropropane | * | 0.256 | 0.262 | -2.3 | * |
| cis-1,3-Dichloropropene | | 0.517 | 0.556 | -7.5 | |
| Trichloroethene | | 0.421 | 0.462 | -9.7 | |
| Dibromochloromethane | | 0.569 | 0.695 | -22.1 | |
| 1,1,2-Trichloroethane | | 0.310 | 0.365 | -17.7 | |
| Benzene | | 0.838 | 0.872 | -4.1 | |
| trans-1,3-Dichloropropene | | 0.272 | 0.305 | -12.1 | |
| Bromoform | # | 0.460 | 0.611 | -32.8 | # |
| 4-Methyl-2-Pentanone | | 0.318 | 0.449 | -41.2 | |
| 2-Hexanone | | 0.250 | 0.332 | -32.8 | |
| Tetrachloroethene | | 0.419 | 0.457 | -9.1 | |
| 1,1,2,2-Tetrachloroethane | # | 0.525 | 0.672 | -28.0 | # |
| Toluene | * | 0.662 | 0.669 | -1.1 | * |
| Chlorobenzene | # | 0.935 | 0.968 | -3.5 | # |
| Ethylbenzene | * | 0.456 | 0.444 | 2.6 | * |
| Styrene | | 0.987 | 0.951 | 3.6 | |
| Xylene (total) | | 0.601 | 0.621 | -3.3 | |
| Toluene-d8 | | 2.108 | 0.984 | 53.3 | |
| BFB | | 1.233 | 0.575 | 53.4 | |
| 1,2-Dichloroethane-d4 | | 2.741 | 1.102 | 59.8 | |

samples affected
SB114C
SB115A
SB115B
SB115C
SB116A
SB116B
SB116C

No action - blank contamination has hierarchy

No action. Non-detects rejected due to RRF < 0.05 for initial calib.

No positive results reported

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Instrument ID: 4500B Calibration date: 02/25/90 Time: 2152

Lab File ID: 3VT02259006 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.141 | 1.413 | 34.0 | # |
| Bromomethane | | 1.638 | 0.997 | 39.1 | |
| Vinyl Chloride | * | 2.160 | 1.936 | 10.4 | * |
| Chloroethane | | 1.217 | 0.939 | 22.8 | |
| Methylene Chloride | | 1.821 | 1.555 | 14.6 | |
| Acetone | | 1.183 | 2.160 | -82.6 | |
| Carbon Disulfide | | 3.819 | 3.074 | 19.5 | |
| 1,1-Dichloroethene | * | 1.212 | 1.405 | -15.9 | * |
| 1,1-Dichloroethane | # | 1.959 | 2.860 | -46.0 | # |
| 1,2-Dichloroethene (total) | | 1.212 | 1.116 | 7.9 | |
| Chloroform | * | 2.249 | 1.969 | 12.5 | * |
| 1,2-Dichloroethane | | 1.374 | 1.120 | 18.5 | |
| 2-Butanone | | 0.035 | 0.079 | -99.9 | |
| 1,1,1-Trichloroethane | | 0.492 | 0.447 | 9.1 | |
| Carbon Tetrachloride | | 0.469 | 0.460 | 1.9 | |
| Vinyl Acetate | | 0.477 | 0.480 | -0.6 | |
| Bromodichloromethane | | 0.519 | 0.497 | 4.2 | |
| 1,2-Dichloropropane | * | 0.256 | 0.248 | 3.1 | * |
| cis-1,3-Dichloropropene | | 0.517 | 0.519 | -0.4 | |
| Trichloroethene | | 0.421 | 0.456 | -8.3 | |
| Dibromochloromethane | | 0.569 | 0.656 | -15.3 | |
| 1,1,2-Trichloroethane | | 0.310 | 0.359 | -15.8 | |
| Benzene | | 0.838 | 0.818 | 2.4 | |
| trans-1,3-Dichloropropene | | 0.272 | 0.283 | -4.0 | |
| Bromoform | # | 0.460 | 0.597 | -29.8 | # |
| 4-Methyl-2-Pentanone | | 0.318 | 0.533 | -67.6 | |
| 2-Hexanone | | 0.250 | 0.344 | -37.6 | |
| Tetrachloroethene | | 0.419 | 0.412 | 1.7 | |
| 1,1,2,2-Tetrachloroethane | # | 0.525 | 0.669 | -27.4 | # |
| Toluene | * | 0.662 | 0.643 | 2.9 | * |
| Chlorobenzene | # | 0.935 | 0.925 | 1.1 | # |
| Ethylbenzene | * | 0.456 | 0.420 | 7.9 | * |
| Styrene | | 0.987 | 0.877 | 11.1 | |
| Xylene (total) | | 0.601 | 0.682 | -13.5 | |
| Toluene-d8 | | 2.108 | 1.007 | 52.2 | |
| BFB | | 1.233 | 0.571 | 53.7 | |
| 1,2-Dichloroethane-d4 | | 2.741 | 1.041 | 62.0 | |

Sample SB105C affected

No acetone. Blank cont. has priority

Initial RRF

non-dated UJ

/A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB1

Instrument ID: 4500A Calibration date: 02/21/90 Time: 0652

Lab File ID: 2VT02219001 Init. Calib. Date(s): 02/03/90 02/03/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.885 | 1.165 | -31.6 | # |
| Bromomethane | | 1.109 | 1.110 | -0.1 | |
| Vinyl Chloride | * | 1.044 | 1.187 | -13.7 | * |
| Chloroethane | | 0.758 | 0.830 | -9.5 | |
| Methylene Chloride | | 1.306 | 1.219 | 6.7 | |
| Acetone | | 0.807 | 0.878 | -8.8 | |
| Carbon Disulfide | | 3.098 | 3.144 | -1.5 | |
| 1,1-Dichloroethene | * | 1.251 | 1.155 | 7.7 | * |
| 1,1-Dichloroethane | # | 2.001 | 2.171 | -8.5 | # |
| 1,2-Dichloroethene (total) | | 1.543 | 1.454 | 5.8 | |
| Chloroform | * | 2.553 | 2.543 | 0.4 | * |
| 1,2-Dichloroethane | | 1.385 | 1.508 | -8.9 | |
| 2-Butanone | | 0.074 | 0.081 | -9.5 | |
| 1,1,1-Trichloroethane | | 0.527 | 0.468 | 11.2 | |
| Carbon Tetrachloride | | 0.458 | 0.424 | 7.4 | |
| Vinyl Acetate | | 0.669 | 0.845 | -26.3 | |
| Bromodichloromethane | | 0.594 | 0.577 | 2.9 | |
| 1,2-Dichloropropane | * | 0.279 | 0.309 | -10.8 | * |
| cis-1,3-Dichloropropene | | 0.655 | 0.650 | 0.8 | |
| Trichloroethene | | 0.460 | 0.415 | 9.8 | |
| Dibromochloromethane | | 0.583 | 0.551 | 5.5 | |
| 1,1,2-Trichloroethane | | 0.363 | 0.331 | 8.8 | |
| Benzene | | 0.945 | 0.966 | -2.2 | |
| trans-1,3-Dichloropropene | | 0.326 | 0.313 | 4.0 | |
| Bromoform | # | 0.426 | 0.511 | -20.0 | # |
| 4-Methyl-2-Pentanone | | 0.605 | 0.787 | -30.1 | |
| 2-Hexanone | | 0.491 | 0.659 | -34.2 | |
| Tetrachloroethene | | 0.401 | 0.422 | -5.2 | |
| 1,1,2,2-Tetrachloroethane | # | 0.805 | 0.834 | -3.6 | # |
| Toluene | * | 0.789 | 0.742 | 6.0 | * |
| Chlorobenzene | # | 1.012 | 0.909 | 10.2 | # |
| Ethylbenzene | * | 0.510 | 0.451 | 11.6 | * |
| Styrene | | 1.152 | 0.979 | 15.0 | |
| Xylene (total) | | 0.227 | 0.126 | 44.5 | |
| Toluene-d8 | | 0.925 | 1.006 | -8.8 | |
| BFB | | 0.659 | 0.630 | 4.4 | |
| 1,2-Dichloroethane-d4 | | 1.232 | 1.353 | -9.8 | |

samples
SB101A
SB101X
affected

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Instrument ID: INCOSE Calibration Date(s): 03/05/90 03/05/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 5BT03059008 RRF50 = 5BT03059009
RRF80 = 5BT03059010 RRF120= 5BT03059011 RRF160= 5BT03059012

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Dibenzofuran | 1.625 | 1.449 | 1.385 | 1.222 | 1.121 | 1.360 | 14.5 |
| 2,4-Dinitrotoluene | 0.314 | 0.281 | 0.363 | 0.325 | 0.319 | 0.320 | 9.2 |
| Diethylphthalate | 1.155 | 1.026 | 1.126 | 0.975 | 0.931 | 1.043 | 9.2 |
| 4-Chlorophenyl-phenylether | 0.616 | 0.546 | 0.524 | 0.461 | 0.413 | 0.512 | 15.3 |
| Fluorene | 1.305 | 1.098 | 1.058 | 0.872 | 0.790 | 1.025 | 19.7 |
| 4-Nitroaniline | | 0.141 | 0.285 | 0.280 | 0.264 | 0.243 | 28.1 |
| 4,6-Dinitro-2-Methylphenol | | 0.111 | 0.141 | 0.142 | 0.129 | 0.131 | 11.0 |
| N-Nitrosodiphenylamine (1) * | 0.534 | 0.523 | 0.460 | 0.434 | 0.408 | 0.472 | 11.7* |
| 4-Bromophenyl-phenylether | 0.250 | 0.266 | 0.230 | 0.223 | 0.214 | 0.237 | 8.9 |
| Hexachlorobenzene | 0.273 | 0.257 | 0.232 | 0.218 | 0.209 | 0.238 | 11.2 |
| Pentachlorophenol * | | 0.110 | 0.137 | 0.135 | 0.125 | 0.127 | 9.7* |
| Phenanthrene | 1.132 | 1.000 | 0.908 | 0.820 | 0.760 | 0.924 | 16.0 |
| Anthracene | 1.157 | 1.017 | 0.952 | 0.857 | 0.785 | 0.954 | 15.1 |
| Di-n-Butylphthalate | 1.080 | 0.877 | 1.108 | 1.008 | 0.916 | 0.998 | 10.1 |
| Fluoranthene * | 1.048 | 0.750 | 0.944 | 0.840 | 0.795 | 0.875 | 13.8* |
| Pyrene | 1.624 | 1.845 | 1.634 | 1.524 | 1.041 | 1.534 | 19.5 |
| Butylbenzylphthalate | 0.536 | 0.533 | 0.635 | 0.638 | 0.528 | 0.574 | 10.0 |
| 3,3'-Dichlorobenzidine | 0.262 | 0.164 | 0.368 | 0.391 | 0.409 | 0.319 | 32.5 |
| Benzo(a)Anthracene | 1.216 | 1.138 | 1.157 | 1.095 | 0.947 | 1.111 | 9.1 |
| Chrysene | 1.080 | 1.034 | 1.031 | 0.974 | 0.804 | 0.985 | 10.9 |
| bis(2-Ethylhexyl)Phthalate | 0.631 | 0.642 | 0.740 | 0.762 | 0.645 | 0.684 | 9.0 |
| Di-n-Octyl Phthalate * | 0.997 | 0.927 | 1.240 | 1.237 | 1.239 | 1.128 | 13.6* |
| Benzo(b)Fluoranthene | 1.227 | 1.246 | 1.221 | 1.208 | 1.019 | 1.184 | 7.9 |
| Benzo(k)Fluoranthene | 1.187 | 1.234 | 1.052 | 1.093 | 0.851 | 1.083 | 13.7 |
| Benzo(a)Pyrene * | 1.079 | 1.086 | 1.115 | 1.121 | 1.001 | 1.080 | 4.4* |
| Indeno(1,2,3-cd)Pyrene | 0.995 | 0.861 | 1.117 | 1.072 | 1.094 | 1.028 | 10.1 |
| Dibenz(a,h)Anthracene | 0.844 | 0.753 | 0.827 | 0.826 | 0.816 | 0.813 | 4.3 |
| Benzo(g,h,i)Perylene | 0.964 | 0.823 | 0.888 | 0.853 | 0.863 | 0.878 | 6.1 |
| Nitrobenzene-d5 | 0.444 | 0.439 | 0.435 | 0.418 | 0.397 | 0.427 | 4.5 |
| 2-Fluorobiphenyl | 1.223 | 1.081 | 1.007 | 0.926 | 0.855 | 1.018 | 14.0 |
| Terphenyl-d14 | 0.991 | 1.103 | 1.062 | 0.994 | 0.704 | 0.971 | 16.1 |
| Phenol-d5 | 1.794 | 1.859 | 1.904 | 1.776 | 1.576 | 1.782 | 7.1 |
| 2-Fluorophenyl | 1.367 | 1.427 | 1.517 | 1.466 | 1.350 | 1.425 | 4.9 |
| 2,4,6-Tribromophenol | 0.142 | 0.146 | 0.181 | 0.164 | 0.162 | 0.159 | 9.8 |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Instrument ID: 50C Calibration date: 03/24/90 Time: 1418

Lab File ID: BIC03249001 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.525 | 1.573 | -3.1 | |
| 2,4-Dinitrotoluene | 0.384 | 0.353 | 8.1 | |
| Diethylphthalate | 1.318 | 1.245 | 5.5 | |
| 4-Chlorophenyl-phenylether | 0.579 | 0.587 | -1.4 | |
| Fluorene | 1.129 | 1.175 | -4.1 | |
| 4-Nitroaniline | 0.350 | 0.241 | 31.1 | |
| 4,6-Dinitro-2-Methylphenol | 0.144 | 0.135 | 6.3 | |
| N-Nitrosodiphenylamine (1) | * 0.562 | 0.609 | -8.4 | * |
| 4-Bromophenyl-phenylether | 0.224 | 0.242 | -8.0 | |
| Hexachlorobenzene | 0.226 | 0.261 | -15.5 | |
| Pentachlorophenol | * 0.137 | 0.141 | -2.9 | * |
| Phenanthrene | 1.120 | 1.150 | -2.7 | |
| Anthracene | 1.129 | 1.100 | 2.6 | |
| Di-n-Butylphthalate | 1.468 | 1.464 | 0.3 | |
| Fluoranthene | * 1.044 | 0.995 | 4.7 | * |
| Pyrene | 1.360 | 1.433 | -5.4 | |
| Butylbenzylphthalate | 0.806 | 0.764 | 5.2 | |
| 3,3'-Dichlorobenzidine | 0.372 | 0.378 | -1.6 | |
| Benzo(a)Anthracene | 1.157 | 1.298 | -12.2 | |
| Chrysene | 0.976 | 0.840 | 13.9 | |
| bis(2-Ethylhexyl)Phthalate | 1.055 | 1.043 | 1.1 | |
| Di-n-Octyl Phthalate | * 1.619 | 1.633 | -0.9 | * |
| Benzo(b)Fluoranthene | 1.505 | 1.396 | 7.2 | |
| Benzo(k)Fluoranthene | 1.069 | 0.965 | 9.7 | |
| Benzo(a)Pyrene | * 1.207 | 1.151 | 4.6 | * |
| Indeno(1,2,3-cd)Pyrene | 0.961 | 1.066 | -10.9 | |
| Dibenz(a,h)Anthracene | 0.881 | 0.803 | 8.9 | |
| Benzo(g,h,i)Perylene | 0.969 | 0.981 | -1.2 | |
| Nitrobenzene-d5 | 0.471 | 0.384 | 18.5 | |
| 2-Fluorobiphenyl | 1.169 | 1.332 | -13.9 | |
| Terphenyl-d14 | 1.097 | 1.135 | -3.5 | |
| Phenol-d5 | 1.940 | 1.774 | 8.6 | |
| 2-Fluorophenyl | 1.436 | 1.283 | 10.7 | |
| 2,4,6-Tribromophenol | 0.153 | 0.182 | -19.0 | |

(1) Cannot be separated from Diphenylamine

HALLIBURTON NUS
*Environmental Corporation*

INTERNAL CORRESPONDENCE

C-49-6-0-20

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990 (Revised 10/91) PEG 10/91

**FROM:** KIM TURNBULL

**COPIES:** D.A. SCHEIB

**SUBJECT:** INORGANIC DATA VALIDATION - METALS AND CYANIDE
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB1

**SAMPLES:**

Soil: T-SU-

| | | |
|---|---|---|
| SB101A | SB105C | SB114C |
| SB101X | SB113A | SB115A |
| SB102A | SB113B | SB115B |
| SB103A | SB113C | SB115C |
| SB104A | SB114A | SB116A |
| SB105X | SB114B | SB116B |
| SB105B | | SB116C |

NUS Laboratories analyzed 13 soil samples for Target Analyte List (TAL) metals and cyanide. In addition, 7 soil samples were analyzed for mercury and cyanide only. Two pairs of field duplicates were included with this sample set; no field or rinsate blank samples were included.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data." The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- Data completeness
- Holding times
- Calibration verification
- * Laboratory blank analyses
- ICP Interference check sample results
- Laboratory control sample results
- * Matrix spike recoveries
- * Furnace atomic absorption results
- Serial dilution analyses
- * Laboratory duplicates
- Field duplicates
- Sample quantitation
- Detection limits

* - Quality Control Criteria not met for this parameter.

**Laboratory Duplicates**

Laboratory duplicate results for aluminum exceeded the 35% Relative Percent Difference (RPD) quality control limit for soils. Positive results for aluminum are qualified as estimated, "J".

**Notes**

Samples SB101A and SB101X constitute a field duplicate pair. The original sample was analyzed for total metals and cyanide, however, the duplicate sample was analyzed for mercury and cyanide only. No positive results were reported for either mercury or cyanide in either sample.

Field duplicate sample SB105X was included in this data set, however, the original sample (SB105A) was not. Sample SB105A was analyzed for TAL metals under SDG TAFB2. Sample SB105X was analyzed for mercury and cyanide only. No positive results were reported for cyanide in either sample. Samples SB105A and SB105X contained 0.46 and 0.32 mg/kg mercury, respectively. The RPD for these results is well within acceptable limits.

Please do not hesitate to contact me if you have any questions regarding this review.

3
BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB01

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): ~~MG/KG~~

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prep-aration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | -4.0 | U | 20.9 | U | | | 29.000 | B | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | 5.3 | U | 5.300 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.400 | U | F |
| Barium | 17.3 | U | 17.3 | U | 17.3 | U | | | 17.300 | U | P |
| Beryllium | 1.5 | U | 1.5 | U | 1.5 | U | | | 1.500 | U | P |
| Cadmium | 2.9 | U | 2.9 | U | 2.9 | U | | | 2.900 | U | P |
| Calcium | [illegible] | B | 66.0 | B | 70.0 | B | | | 8.200 | U | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | | | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | 9.8 | B | | | [illegible] | B | P |
| Copper | -19.3 | B | -19.2 | B | -20.1 | B | | | -19.000 | B | P |
| Iron | -22.0 | B | -13.0 | B | -16.0 | B | | | -6.000 | B | P |
| Lead | [illegible] | B | 0.7 | U | 0.7 | U | 0.7 | U | 0.700 | U | F |
| Magnesium | 439.8 | U | 439.8 | U | | | | | 439.800 | U | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | | | 3.700 | U | P |
| Mercury | 0.1 | U | 0.1 | U | | | | | 0.100 | U | CV |
| Nickel | 11.4 | B | 9.8 | U | 14.3 | B | | | [illegible] | B | P |
| Potassium | 150.0 | B | 250.0 | B | | | | | 240.000 | B | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.000 | U | F |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | | | 7.400 | U | P |
| Sodium | 1290.0 | B | 1240.0 | B | 1330.0 | B | | | 1850.000 | B | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.300 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | 6.5 | U | | | 6.500 | U | P |
| Zinc | 3.5 | B | 4.8 | B | 4.1 | B | | | 11.400 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | 9.1 | U | | | 9.100 | U | C |

PREPARATION BLANK CONCENTRATIONS IN ug/L; see case narrative.

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
H18378S

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB01

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | NR |
| Antimony | 75-125 | 10.5954 | B | 1.1832 | U | 21.8 | 48.6 | N | F |
| Arsenic | 75-125 | 8.1195 | | 0.5751 | B | 8.8 | 85.7 | | F |
| Barium | 75-125 | 486.1044 | | 57.1719 | | 436.0 | 98.4 | | P |
| Beryllium | 75-125 | 10.7045 | | 0.3349 | U | 10.9 | 98.2 | | P |
| Cadmium | 75-125 | 10.4864 | | 0.6474 | U | 10.9 | 96.2 | | P |
| Calcium | | | | | | | | | NR |
| Chromium | 75-125 | 60.7821 | | 20.5604 | | 43.6 | 92.3 | | P |
| Cobalt | 75-125 | 106.3469 | | 4.2639 | B | 109.0 | 93.7 | | P |
| Copper | 75-125 | 52.9772 | | 1.3618 | U | 54.5 | 97.2 | | P |
| Iron | | | | | | | | | NR |
| Lead | 75-125 | 5.8690 | | 2.0351 | | 4.4 | 87.1 | | F |
| Magnesium | | | | | | | | | NR |
| Manganese | 75-125 | 159.5640 | | 63.8468 | | 109.0 | 87.8 | | P |
| Mercury | 75-125 | 0.5995 | | 0.0548 | U | 0.6 | 99.9 | | CV |
| Nickel | 75-125 | 108.2872 | | 8.7287 | B | 109.0 | 91.3 | | P |
| Potassium | | | | | | | | | NR |
| Selenium | 75-125 | 1.8313 | | 0.4424 | U | 2.2 | 83.2 | | F |
| Silver | 75-125 | 8.7815 | | 1.6369 | U | 11.0 | 79.8 | | P |
| Sodium | | | | | | | | | NR |
| Thallium | 75-125 | 8.8256 | | 0.2876 | U | 11.0 | 80.2 | | F |
| Vanadium | 75-125 | 114.0428 | | 9.0636 | B | 109.0 | 96.3 | | P |
| Zinc | 75-125 | 111.4048 | | 12.2113 | | 109.0 | 91.0 | | P |
| Cyanide | 75-125 | 2.7739 | | 0.2468 | U | 2.8 | 99.1 | | C |
| | | | | | | | | | |

Comments:

IX-90

56

TAFB CASE: TAFB1 SDE: TAFB1 (Part II) Tk cont

| Run | Avg reading (ug/l) | % rec |
|---|---|---|
| 18) H18395 (T-SU-SB114B) | -0,5 | |
| 19) H18395A | 15,3 | 76,5 W |
| 20) H18398 (T-SU-SB115B) | -0,3 | |
| 21) H18398A | 14,1 | 70,5 W |
| 22) H18401 (T-SU-SB116B) | -0,3 | |
| 23) H18401A | 13,8 | 69,0 W |
| 24) CCV2-2 | 24,1 | 96,4 |
| 25) CCB2-2 | 0,0 | ✓ |
| 26) PB2 (B) | -0,4 | ✓ |
| 27) PB2A (B) | 17,9 | 89,5 |
| 28) LCSS2 (B) | 43,6 | 87,2 |
| 29) LCSS2A (B) 5/10 | 40,3 x2 = 80,6 | 92,5 |
| 30) CCV3-2 | 23,3 | 93,2 |
| 31) CCB3-2 | -0,7 | ✓ |

Jeff Polasek

Elissa Sommers
4-5-90

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-46

**TO:** JAMES WEDEKIND **DATE:** JUNE 30, 1990

**FROM:** MARK MENGLE (DM) **COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB2

**SAMPLES:**

Soil: T-SU-

| | | | |
|---|---|---|---|
| SB105A | SB103B | SB107A | SB112X |
| SB101B | SB104B | SB108A | SB107B |
| SB101C | SB104C | SB109A | SB107C |
| SB102B | SB106A | SB111X | |
| SB102C | SB106X | SB112A | |

Soil: T-

RB-FEB15A
TB-FED15A

NUS Laboratories analyzed 18 soil samples (including three pairs of field duplicates) 1 trip blank and 1 rinsate blank for Target Compound List (TCL) volatiles. Twelve of these samples were also analyzed for TCL semivolatile compounds.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Field duplicate precision
- Sample quantitation
- Detection limits

Data which did not meet quality criteria are discussed below.

The percent Relative Standard Deviation (%RSD) for the initial calibration of chloromethane exceeded 50%. Only sample T-SU-SB107B was affected. The non-detect for chloromethane in this sample is qualified as estimated, "UJ".

Initial calibration %RSDs for chloroethane and carbon disulfide exceeded the 30% quality control criteria. No actions were taken as no positive results were reported for these two compounds in affected samples.

Some continuing calibration Percent Differences (%Ds) for chloroethane, acetone, 4-methyl-2-pentanone, and 2-hexanone exceeded 50%. No further action was taken for acetone as all affected results for this compound were previously qualified "U", undetected, based on blank contamination. Non-detects for the remaining compounds in affected samples are qualified as estimated, "UJ".

Some continuing calibration %Ds for several compounds exceeded the ±25% quality control limit. No qualifications were made, however, as no positive results were reported for these compounds in affected samples.

Sample T-SU-SB111X (analyzed with this sample set) is the field duplicate to sample T-SU-SB111B (analyzed under SDG TAFB3.) No positive results (after qualification for blank contamination) were reported for either sample. Samples T-SU-SB106A and T-SU-SB106X constitute a field duplicate pair. No positive results (after qualification for blank contamination) were reported for either sample.

Samples T-SU-SB112A and T-SU-SB112X also constitute a field duplicate pair. Concentrations below the CRQL of 3 ug/kg 2-butanone and 4 ug/kg 2-butanone, respectively, were reported. The results are well within the quality control limits set for field duplicate precision.

No qualifications were made for Tentatively Identified Compounds (TICs) as no TICs were detected in any of the blanks analyzed with this sample set.

Semivolatile Fraction

The majority of samples analyzed were found to be free of semivolatile contamination. Concentrations below the CRQL were found for bis(2-ethylhexyl)phthalate (in sample T-SU-SB102B) and butylbenzylphthalate (in sample T-SU-SB103B). Di-n-butyl phthalate and bis(2-ethylhexyl)phthalate were detected in samples

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB2

TABLE 1 - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB101B | $A^{1,2}$, $R^{1}$ | |
| T-SU-SB101C | $A^{1,2,6}$, $R^{1}$ | |
| T-SU-SB102B | $A^{1,2,5,6}$, $J^{3}$, $R^{1}$ | $J^{4}$ |
| T-SU-SB102C | $A^{1,2,6}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB103B | $A^{1,2,5}$, $J^{3}$, $R^{1}$ | $J^{4}$ |
| T-SU-SB104B | $A^{1,2,5}$, $J^{3}$, $R^{1}$ | $J^{4,5}$ |
| T-SU-SB104C | $A^{1,2,5,6}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB105A | $A^{1,2,3,5,6}$, $R^{1}$ | |
| T-SU-SB106A | $A^{1,2}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB106X | $A^{1,2,5,6}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB107A | $A^{1,2}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB107B | $A^{1,2,5,6}$, $J^{2}$ | $J^{4,5}$ |
| T-SU-SB107C | $A^{1,2,5}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB108A | $A^{1,2,4,5}$, $J^{3}$, $R^{1}$ | $J^{4}$ |
| T-SU-SB109A | $A^{1,2,5,6}$, $J^{3}$, $R^{1}$ | |
| T-SU-SB111X | $A^{1,2,5,6}$, $J^{1,3}$ | |
| T-SU-SB112A | $A^{1,2,5,6}$, $J^{1,3}$ | $J^{4}$ |
| T-SU-SB112X | $A^{1,2,3,5,6}$, $J^{1,3}$ | |

$A^{1}$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

$A^{2}$ - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCF

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCF

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02219003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J B |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKC10

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: VBLKC10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02259007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/25/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 2 | J |
| 75-15-0 | Carbon Disulfide | 0.2 | J |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBFEB15A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118410

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02219006

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. ____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 4 | [redacted] |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 3 | [redacted] |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TRBFEB15A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: H118410

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02269004

Level: (low/med) LOW Date Received: 02/17/90

% Moisture: not dec. dec. Date Extracted: 02/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/26/90

GPC Cleanup: (Y/N) N pH: 4.5 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCF

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCF

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02219003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q | |
|---|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U | |
| 74-83-9 | Bromomethane | 10 | U | |
| 75-01-4 | Vinyl Chloride | 10 | U | |
| 75-00-3 | Chloroethane | 10 | U | |
| 75-09-2 | Methylene Chloride | 1 | J | B |
| 67-64-1 | Acetone | 10 | U | |
| 75-15-0 | Carbon Disulfide | 5 | U | |
| 75-35-4 | 1,1-Dichloroethene | 5 | U | |
| 75-34-3 | 1,1-Dichloroethane | 5 | U | |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U | |
| 67-66-3 | Chloroform | 5 | U | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U | |
| 78-93-3 | 2-Butanone | 10 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U | |
| 56-23-5 | Carbon Tetrachloride | 5 | U | |
| 108-05-4 | Vinyl Acetate | 10 | U | |
| 75-27-4 | Bromodichloromethane | 5 | U | |
| 78-87-5 | 1,2-Dichloropropane | 5 | U | |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U | |
| 79-01-6 | Trichloroethene | 5 | U | |
| 124-48-1 | Dibromochloromethane | 5 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U | |
| 71-43-2 | Benzene | 5 | U | |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U | |
| 75-25-2 | Bromoform | 5 | U | |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U | |
| 591-78-6 | 2-Hexanone | 10 | U | |
| 127-18-4 | Tetrachloroethene | 5 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U | |
| 108-88-3 | Toluene | 5 | U | |
| 108-90-7 | Chlorobenzene | 5 | U | |
| 100-41-4 | Ethylbenzene | 5 | U | |
| 100-42-5 | Styrene | 5 | U | |
| 1330-20-7 | Xylene (total) | 5 | U | |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKC10

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Matrix: (soil/water) SOIL Lab Sample ID: VBLKC10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02259007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/25/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | 0 | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 2 | J |
| 75-15-0 | Carbon Disulfide | 0.2 | J |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Instrument ID: 4500B Calibration Date(s): 02/16/90 02/16/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT02159006 RRF50 = 3VT02159005
RRF100= 3VT02159007 RRF150= 3VT02159008 RRF200= 3VT02159009

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 2.250 | 2.258 | 2.395 | 2.386 | 2.194 | 2.297 | 3.9# |
| Bromomethane | 1.887 | 1.843 | 1.981 | 1.893 | 1.720 | 1.865 | 5.1 |
| Vinyl Chloride * | 2.294 | 2.207 | 2.473 | 2.570 | 2.449 | 2.399 | 6.1* |
| Chloroethane | 1.389 | 1.296 | 1.325 | 1.295 | 1.184 | 1.298 | 5.7 |
| Methylene Chloride | 1.990 | 1.813 | 1.852 | 1.806 | 1.596 | 1.811 | 7.8 |
| Acetone | 0.784 | 0.614 | 0.677 | 0.634 | 0.503 | 0.642 | 15.9 |
| Carbon Disulfide | 4.743 | 4.773 | 4.631 | 4.320 | 3.535 | 4.400 | 11.7 |
| 1,1-Dichloroethene * | 1.413 | 1.522 | 1.248 | 1.245 | 1.349 | 1.355 | 8.6* |
| 1,1-Dichloroethane # | 2.323 | 2.225 | 2.224 | 2.207 | 2.006 | 2.197 | 5.3# |
| 1,2-Dichloroethene (total) | 1.393 | 1.374 | 1.397 | 1.375 | 1.202 | 1.348 | 6.1 |
| Chloroform * | 2.811 | 2.602 | 2.651 | 2.603 | 2.356 | 2.605 | 6.3* |
| 1,2-Dichloroethane | 1.740 | 1.718 | 1.738 | 1.706 | 1.514 | 1.683 | 5.7 |
| 2-Butanone | 0.024 | 0.020 | 0.024 | 0.023 | 0.021 | 0.022 | 8.3 |
| 1,1,1-Trichloroethane | 0.523 | 0.514 | 0.522 | 0.517 | 0.505 | 0.516 | 1.4 |
| Carbon Tetrachloride | 0.469 | 0.473 | 0.478 | 0.477 | 0.469 | 0.473 | 0.9 |
| Vinyl Acetate | 0.565 | 0.564 | 0.526 | 0.520 | 0.496 | 0.534 | 5.6 |
| Bromodichloromethane | 0.573 | 0.569 | 0.564 | 0.569 | 0.559 | 0.567 | 1.0 |
| 1,2-Dichloropropane * | 0.308 | 0.300 | 0.289 | 0.292 | 0.286 | 0.295 | 3.0* |
| cis-1,3-Dichloropropene | 0.591 | 0.590 | 0.579 | 0.579 | 0.564 | 0.581 | 1.9 |
| Trichloroethene | 0.418 | 0.409 | 0.408 | 0.407 | 0.397 | 0.408 | 1.8 |
| Dibromochloromethane | 0.531 | 0.534 | 0.542 | 0.549 | 0.543 | 0.540 | 1.3 |
| 1,1,2-Trichloroethane | 0.287 | 0.284 | 0.286 | 0.292 | 0.287 | 0.287 | 1.0 |
| Benzene | 0.963 | 0.947 | 0.892 | 0.897 | 0.878 | 0.915 | 4.1 |
| trans-1,3-Dichloropropene | 0.292 | 0.299 | 0.296 | 0.296 | 0.292 | 0.295 | 1.0 |
| Bromoform # | 0.365 | 0.364 | 0.380 | 0.391 | 0.383 | 0.377 | 3.1# |
| 4-Methyl-2-Pentanone | 0.276 | 0.267 | 0.245 | 0.241 | 0.227 | 0.251 | 8.0 |
| 2-Hexanone | 0.229 | 0.203 | 0.205 | 0.199 | 0.177 | 0.203 | 9.1 |
| Tetrachloroethene | 0.441 | 0.426 | 0.420 | 0.415 | 0.402 | 0.421 | 3.4 |
| 1,1,2,2-Tetrachloroethane # | 0.458 | 0.451 | 0.438 | 0.453 | 0.439 | 0.448 | 2.0# |
| Toluene * | 0.764 | 0.736 | 0.710 | 0.704 | 0.690 | 0.721 | 4.1* |
| Chlorobenzene # | 1.027 | 0.995 | 0.976 | 0.970 | 0.951 | 0.984 | 2.9# |
| Ethylbenzene * | 0.505 | 0.488 | 0.472 | 0.466 | 0.455 | 0.477 | 4.1* |
| Styrene | 1.095 | 1.038 | 1.018 | 1.019 | 1.010 | 1.036 | 3.3 |
| Xylene (total) | 0.524 | 0.501 | 0.488 | 0.490 | 0.485 | 0.498 | 3.2 |
| Toluene-d8 | 1.008 | 0.997 | 0.986 | 0.989 | 0.987 | 0.993 | 0.9 |
| BFB | 0.607 | 0.605 | 0.607 | 0.621 | 0.628 | 0.614 | 1.7 |
| 1,2-Dichloroethane-d4 | 1.418 | 1.452 | 1.540 | 1.611 | 1.501 | 1.504 | 5.0 |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Instrument ID: 4500B Calibration Date(s): 02/28/90 02/28/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT02289001 RRF50 = 3VT02289002
RRF100= 3VT02289003 RRF150= 3VT02289004 RRF200= 3VT02289005

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane | # 0.210 | 0.903 | 1.103 | 0.807 | 1.754 | 0.955 | 58.3# |
| Bromomethane | 0.949 | 0.940 | 0.801 | 0.744 | 0.984 | 0.884 | 11.8 |
| Vinyl Chloride | * 1.738 | 1.645 | 1.150 | 1.067 | 1.466 | 1.413 | 21.0* |
| Chloroethane | 0.932 | 0.871 | 0.716 | 0.299 | 0.370 | 0.638 | 45.3 |
| Methylene Chloride | 1.949 | 1.724 | 1.550 | 0.990 | 1.754 | 1.593 | 23.0 |
| Acetone | 1.936 | 2.205 | 2.020 | 1.645 | 2.615 | 2.084 | 17.2 |
| Carbon Disulfide | 1.994 | 2.398 | 2.203 | 1.446 | 3.960 | 2.400 | 39.2 |
| 1,1-Dichloroethene | * 1.498 | 1.211 | 1.301 | 0.810 | 1.562 | 1.276 | 23.3* |
| 1,1-Dichloroethane | # 2.124 | 2.142 | 2.714 | 1.413 | 2.418 | 2.162 | 22.3# |
| 1,2-Dichloroethene (total) | 1.350 | 1.291 | 1.341 | 0.762 | 1.495 | 1.248 | 22.6 |
| Chloroform | * 2.651 | 2.571 | 2.411 | 1.580 | 2.585 | 2.360 | 18.8* |
| 1,2-Dichloroethane | 1.827 | 1.810 | 1.742 | 1.123 | 1.908 | 1.682 | 18.9 |
| 2-Butanone | 0.094 | 0.095 | 0.107 | 0.073 | 0.133 | 0.100 | 22.0 |
| 1,1,1-Trichloroethane | 0.489 | 0.466 | 0.438 | 0.288 | 0.480 | 0.432 | 19.2 |
| Carbon Tetrachloride | 0.468 | 0.444 | 0.409 | 0.266 | 0.448 | 0.407 | 20.1 |
| Vinyl Acetate | 0.826 | 0.808 | 0.892 | 0.557 | 0.868 | 0.790 | 17.0 |
| Bromodichloromethane | 0.593 | 0.584 | 0.577 | 0.386 | 0.606 | 0.549 | 16.7 |
| 1,2-Dichloropropane | * 0.325 | 0.331 | 0.338 | 0.227 | 0.375 | 0.319 | 17.3* |
| cis-1,3-Dichloropropene | 0.616 | 0.614 | 0.623 | 0.418 | 0.681 | 0.590 | 17.0 |
| Trichloroethene | 0.414 | 0.397 | 0.377 | 0.246 | 0.432 | 0.373 | 19.8 |
| Dibromochloromethane | 0.624 | 0.595 | 0.588 | 0.387 | 0.586 | 0.556 | 17.2 |
| 1,1,2-Trichloroethane | 0.393 | 0.382 | 0.380 | 0.249 | 0.395 | 0.360 | 17.3 |
| Benzene | 1.014 | 0.950 | 0.910 | 0.588 | 0.966 | 0.886 | 19.2 |
| trans-1,3-Dichloropropene | 0.332 | 0.327 | 0.324 | 0.215 | 0.360 | 0.312 | 17.9 |
| Bromoform | # 0.546 | 0.531 | 0.526 | 0.345 | 0.523 | 0.494 | 17.0# |
| 4-Methyl-2-Pentanone | 0.827 | 0.792 | 0.922 | 0.558 | 0.884 | 0.797 | 17.9 |
| 2-Hexanone | 0.738 | 0.723 | 0.793 | 0.500 | 0.840 | 0.719 | 18.2 |
| Tetrachloroethene | 0.419 | 0.397 | 0.377 | 0.243 | 0.401 | 0.367 | 19.4 |
| 1,1,2,2-Tetrachloroethane | # 0.881 | 0.858 | 0.882 | 0.562 | 0.854 | 0.807 | 17.1# |
| Toluene | * 0.742 | 0.719 | 0.700 | 0.463 | 0.775 | 0.680 | 18.3* |
| Chlorobenzene | # 1.015 | 0.970 | 0.948 | 0.634 | 0.952 | 0.904 | 16.9# |
| Ethylbenzene | * 0.475 | 0.459 | 0.453 | 0.307 | 0.498 | 0.438 | 17.2* |
| Styrene | 1.028 | 0.976 | 1.185 | 0.778 | 1.055 | 1.004 | 14.8 |
| Xylene (total) | 0.590 | 0.738 | 0.591 | 0.503 | 0.597 | 0.604 | 14.0 |
| Toluene-d8 | 1.051 | 1.062 | 1.035 | 1.071 | 1.056 | 1.055 | 1.3 |
| BFB | 0.637 | 0.617 | 0.613 | 0.652 | 0.626 | 0.629 | 2.5 |
| 1,2-Dichloroethane-d4 | 1.612 | 1.654 | 1.604 | 1.601 | 1.881 | 1.670 | 7.2 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Instrument ID: 4500B Calibration date: 02/21/90 Time: 0636

Lab File ID: 3VT02219001 Init. Calib. Date(s): 02/16/90 02/16/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D' | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.297 | 2.256 | 1.8 | # |
| Bromomethane | | 1.865 | 2.031 | -8.9 | |
| Vinyl Chloride | * | 2.399 | 2.461 | -2.6 | * |
| Chloroethane | | 1.298 | 1.421 | -9.5 | |
| Methylene Chloride | | 1.811 | 1.772 | 2.2 | |
| Acetone | | 0.642 | 0.432 | 32.7 | |
| Carbon Disulfide | | 4.400 | 3.757 | 14.6 | |
| 1,1-Dichloroethene | * | 1.355 | 1.023 | 24.5 | * |
| 1,1-Dichloroethane | # | 2.197 | 1.785 | 18.8 | # |
| 1,2-Dichloroethene (total) | | 1.348 | 1.133 | 16.0 | |
| Chloroform | * | 2.605 | 2.260 | 13.2 | * |
| 1,2-Dichloroethane | | 1.683 | 1.288 | 23.5 | |
| 2-Butanone | | 0.022 | 0.013 | 40.9 | |
| 1,1,1-Trichloroethane | | 0.516 | 0.467 | 9.5 | |
| Carbon Tetrachloride | | 0.473 | 0.443 | 6.3 | |
| Vinyl Acetate | | 0.534 | 0.360 | 32.6 | |
| Bromodichloromethane | | 0.567 | 0.507 | 10.6 | |
| 1,2-Dichloropropane | * | 0.295 | 0.243 | 17.6 | * |
| cis-1,3-Dichloropropene | | 0.581 | 0.496 | 14.6 | |
| Trichloroethene | | 0.408 | 0.385 | 5.6 | |
| Dibromochloromethane | | 0.540 | 0.504 | 6.7 | |
| 1,1,2-Trichloroethane | | 0.287 | 0.251 | 12.5 | |
| Benzene | | 0.915 | 0.783 | 14.4 | |
| trans-1,3-Dichloropropene | | 0.295 | 0.240 | 18.6 | |
| Bromoform | # | 0.377 | 0.338 | 10.3 | # |
| 4-Methyl-2-Pentanone | | 0.251 | 0.169 | 32.7 | |
| 2-Hexanone | | 0.203 | 0.130 | 36.0 | |
| Tetrachloroethene | | 0.421 | 0.384 | 8.8 | |
| 1,1,2,2-Tetrachloroethane | # | 0.448 | 0.354 | 21.0 | # |
| Toluene | * | 0.721 | 0.616 | 14.6 | * |
| Chlorobenzene | # | 0.984 | 0.890 | 9.6 | # |
| Ethylbenzene | * | 0.477 | 0.426 | 10.7 | * |
| Styrene | | 1.036 | 0.934 | 9.8 | |
| Xylene (total) | | 0.498 | 0.416 | 16.5 | |
| Toluene-d8 | | 0.993 | 0.995 | -0.2 | |
| BFB | | 0.614 | 0.583 | 5.0 | |
| 1,2-Dichloroethane-d4 | | 1.504 | 1.227 | 18.4 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Instrument ID: 4500B Calibration date: 02/25/90 Time: 0807

Lab File ID: 3VT02259004 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D |
|---|---|---|---|
| Chloromethane | # 2.141 | 1.195 | 44.2 # |
| Bromomethane | 1.638 | 0.949 | 42.1 |
| Vinyl Chloride | * 2.160 | 1.767 | 18.2 * |
| Chloroethane | 1.217 | 0.603 | 50.5 |
| Methylene Chloride | 1.821 | 1.647 | 9.6 |
| Acetone | 1.183 | 1.971 | -66.6 |
| Carbon Disulfide | 3.819 | 3.779 | 1.0 |
| 1,1-Dichloroethene | * 1.212 | 1.403 | -15.8 * |
| 1,1-Dichloroethane | # 1.959 | 2.668 | -36.2 # |
| 1,2-Dichloroethene (total) | 1.212 | 1.556 | -28.4 |
| Chloroform | * 2.249 | 2.546 | -13.2 * |
| 1,2-Dichloroethane | 1.374 | 1.435 | -4.4 |
| 2-Butanone | 0.035 | 0.096 | -99.9 |
| 1,1,1-Trichloroethane | 0.492 | 0.506 | -2.8 |
| Carbon Tetrachloride | 0.469 | 0.493 | -5.1 |
| Vinyl Acetate | 0.477 | 0.650 | -36.3 |
| Bromodichloromethane | 0.519 | 0.571 | -10.0 |
| 1,2-Dichloropropane | * 0.256 | 0.289 | -12.9 * |
| cis-1,3-Dichloropropene | 0.517 | 0.587 | -13.5 |
| Trichloroethene | 0.421 | 0.439 | -4.3 |
| Dibromochloromethane | 0.569 | 0.633 | -11.3 |
| 1,1,2-Trichloroethane | 0.310 | 0.365 | -17.7 |
| Benzene | 0.838 | 0.913 | -9.0 |
| trans-1,3-Dichloropropene | 0.272 | 0.304 | -11.8 |
| Bromoform | # 0.460 | 0.583 | -26.7 # |
| 4-Methyl-2-Pentanone | 0.318 | 0.694 | -99.9 |
| 2-Hexanone | 0.250 | 0.611 | -99.9 |
| Tetrachloroethene | 0.419 | 0.432 | -3.1 |
| [illegible]2-Tetrachloroethane | # 0.525 | 0.760 | -44.8 # |
| Toluene | * 0.662 | 0.702 | -6.0 * |
| Chlorobenzene | # 0.935 | 0.959 | -2.6 # |
| Ethylbenzene | * 0.456 | 0.458 | -0.4 * |
| Styrene | 0.987 | 0.964 | 2.3 |
| Xylene (total) | 0.601 | 0.598 | 0.5 |
| Toluene-d8 | 2.108 | 1.021 | 51.6 |
| BFB | 1.233 | 0.597 | 51.6 |
| 1,2-Dichloroethane-d4 | 2.741 | 1.265 | 53.9 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB2

Instrument ID: 4500B Calibration date: 02/26/90 Time: 1431

Lab File ID: 3VT02269003 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.141 | 1.585 | 26.0 | # |
| Bromomethane | | 1.638 | 1.066 | 34.9 | |
| Vinyl Chloride | * | 2.160 | 1.829 | 15.3 | * |
| Chloroethane | | 1.217 | 1.112 | 8.6 | |
| Methylene Chloride | | 1.821 | 1.641 | 9.9 | |
| Acetone | | 1.183 | 2.222 | -87.8 | |
| Carbon Disulfide | | 3.819 | 3.369 | 11.8 | |
| 1,1-Dichloroethene | * | 1.212 | 1.462 | -20.6 | * |
| 1,1-Dichloroethane | # | 1.959 | 2.542 | -29.8 | # |
| 1,2-Dichloroethene (total) | | 1.212 | 1.135 | 6.4 | |
| Chloroform | * | 2.249 | 2.129 | 5.3 | * |
| 1,2-Dichloroethane | | 1.374 | 1.377 | -0.2 | |
| 2-Butanone | | 0.035 | 0.078 | -99.9 | |
| 1,1,1-Trichloroethane | | 0.492 | 0.496 | -0.8 | |
| Carbon Tetrachloride | | 0.469 | 0.500 | -6.6 | |
| Vinyl Acetate | | 0.477 | 0.552 | -15.7 | |
| Bromodichloromethane | | 0.519 | 0.564 | -8.7 | |
| 1,2-Dichloropropane | * | 0.256 | 0.267 | -4.3 | * |
| cis-1,3-Dichloropropene | | 0.517 | 0.548 | -6.0 | |
| Trichloroethene | | 0.421 | 0.442 | -5.0 | |
| Dibromochloromethane | | 0.569 | 0.633 | -11.3 | |
| 1,1,2-Trichloroethane | | 0.310 | 0.354 | -14.2 | |
| Benzene | | 0.838 | 0.862 | -2.9 | |
| trans-1,3-Dichloropropene | | 0.272 | 0.293 | -7.7 | |
| Bromoform | # | 0.460 | 0.544 | -18.3 | # |
| 4-Methyl-2-Pentanone | | 0.318 | 0.596 | -87.4 | |
| 2-Hexanone | | 0.250 | 0.478 | -91.2 | |
| Tetrachloroethene | | 0.419 | 0.430 | -2.6 | |
| 1,1,2,2-Tetrachloroethane | # | 0.525 | 0.693 | -32.0 | # |
| Toluene | * | 0.662 | 0.679 | -2.6 | * |
| Chlorobenzene | # | 0.935 | 0.962 | -2.9 | # |
| Ethylbenzene | * | 0.456 | 0.457 | -0.2 | * |
| Styrene | | 0.987 | 0.945 | 4.3 | |
| Xylene (total) | | 0.601 | 0.633 | -5.3 | |
| Toluene-d8 | | 2.108 | 0.998 | 52.7 | |
| BFB | | 1.233 | 0.589 | 52.2 | |
| 1,2-Dichloroethane-d4 | | 2.741 | 1.225 | 55.3 | |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Instrument ID: 500 Calibration date: 03/24/90 Time: 1418

Lab File ID: BIC03249001 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.861 | 1.678 | 9.8 | * |
| bis(2-Chloroethyl)Ether | | 1.556 | 1.412 | 9.3 | |
| 2-Chlorophenol | | 1.309 | 1.323 | -1.1 | |
| 1,3-Dichlorobenzene | | 1.445 | 1.475 | -2.1 | |
| 1,4-Dichlorobenzene | * | 1.510 | 1.509 | 0.1 | * |
| Benzyl Alcohol | | 0.949 | 0.819 | 13.7 | |
| 1,2-Dichlorobenzene | | 1.379 | 1.420 | -3.0 | |
| 2-Methylphenol | | 1.235 | 1.198 | 3.0 | |
| bis(2-Chloroisopropyl)Ether | | 2.084 | 1.909 | 8.4 | |
| 4-Methylphenol | | 1.286 | 1.273 | 1.0 | |
| N-Nitroso-Di-n-Propylamine | # | 1.239 | 1.092 | 11.9 | # |
| Hexachloroethane | | 0.670 | 0.643 | 4.0 | |
| Nitrobenzene | | 0.454 | 0.360 | 20.7 | |
| Isophorone | | 0.798 | 0.712 | 10.8 | |
| 2-Nitrophenol | * | 0.206 | 0.213 | -3.4 | * |
| 2,4-Dimethylphenol | | 0.374 | 0.346 | 7.5 | |
| Benzoic Acid | | 0.200 | 0.128 | 36.0 | |
| bis(2-Chloroethoxy)Methane | | 0.488 | 0.447 | 8.4 | |
| 2,4-Dichlorophenol | * | 0.285 | 0.314 | -10.2 | * |
| 1,2,4-Trichlorobenzene | | 0.306 | 0.333 | -8.8 | |
| Naphthalene | | 1.001 | 1.027 | -2.6 | |
| 4-Chloroaniline | | 0.456 | 0.436 | 4.4 | |
| Hexachlorobutadiene | * | 0.183 | 0.172 | 6.0 | * |
| 4-Chloro-3-Methylphenol | * | 0.327 | 0.280 | 14.4 | * |
| 2-Methylnaphthalene | | 0.583 | 0.573 | 1.7 | |
| Hexachlorocyclopentadiene | # | 0.209 | 0.198 | 5.3 | # |
| 2,4,6-Trichlorophenol | * | 0.319 | 0.388 | -21.6 | * |
| 2,4,5-Trichlorophenol | | 0.314 | 0.343 | -9.2 | |
| 2-Chloronaphthalene | | 1.016 | 1.131 | -11.3 | |
| 2-Nitroaniline | | 0.439 | 0.356 | 18.9 | |
| Dimethyl Phthalate | | 1.178 | 1.160 | 1.5 | |
| Acenaphthylene | | 1.653 | 1.731 | -4.7 | |
| 2,6-Dinitrotoluene | | 0.298 | 0.312 | -4.7 | |
| 3-Nitroaniline | | 0.321 | 0.313 | 2.5 | |
| Acenaphthene | * | 1.036 | 1.113 | -7.4 | * |
| 2,4-Dinitrophenol | # | 0.142 | 0.118 | 16.9 | # |
| 4-Nitrophenol | # | 0.176 | 0.135 | 23.3 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Instrument ID: 50C Calibration date: 03/24/90 Time: 1418

Lab File ID: BIC03249001 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.525 | 1.573 | -3.1 | |
| 2,4-Dinitrotoluene | 0.384 | 0.353 | 8.1 | |
| Diethylphthalate | 1.318 | 1.245 | 5.5 | |
| 4-Chlorophenyl-phenylether | 0.579 | 0.587 | -1.4 | |
| Fluorene | 1.129 | 1.175 | -4.1 | |
| 4-Nitroaniline | 0.350 | 0.241 | 31.1 | |
| 4,6-Dinitro-2-Methylphenol | 0.144 | 0.135 | 6.3 | |
| N-Nitrosodiphenylamine (1) | * 0.562 | 0.609 | -8.4 | * |
| 4-Bromophenyl-phenylether | 0.224 | 0.242 | -8.0 | |
| Hexachlorobenzene | 0.226 | 0.261 | -15.5 | |
| Pentachlorophenol | * 0.137 | 0.141 | -2.9 | * |
| Phenanthrene | 1.120 | 1.150 | -2.7 | |
| Anthracene | 1.129 | 1.100 | 2.6 | |
| Di-n-Butylphthalate | 1.468 | 1.464 | 0.3 | |
| Fluoranthene | * 1.044 | 0.995 | 4.7 | * |
| Pyrene | 1.360 | 1.433 | -5.4 | |
| Butylbenzylphthalate | 0.806 | 0.764 | 5.2 | |
| 3,3'-Dichlorobenzidine | 0.372 | 0.378 | -1.6 | |
| Benzo(a)Anthracene | 1.157 | 1.298 | -12.2 | |
| Chrysene | 0.976 | 0.840 | 13.9 | |
| bis(2-Ethylhexyl)Phthalate | 1.055 | 1.043 | 1.1 | |
| Di-n-Octyl Phthalate | * 1.619 | 1.633 | -0.9 | * |
| Benzo(b)Fluoranthene | 1.505 | 1.396 | 7.2 | |
| Benzo(k)Fluoranthene | 1.069 | 0.965 | 9.7 | |
| Benzo(a)Pyrene | * 1.207 | 1.151 | 4.6 | * |
| Indeno(1,2,3-cd)Pyrene | 0.961 | 1.066 | -10.9 | |
| Dibenz(a,h)Anthracene | 0.881 | 0.803 | 8.9 | |
| Benzo(g,h,i)Perylene | 0.969 | 0.981 | -1.2 | |
| Nitrobenzene-d5 | 0.471 | 0.384 | 18.5 | |
| 2-Fluorobiphenyl | 1.169 | 1.332 | -13.9 | |
| Terphenyl-d14 | 1.097 | 1.135 | -3.5 | |
| Phenol-d5 | 1.940 | 1.774 | 8.6 | |
| 2-Fluorophenyl | 1.436 | 1.283 | 10.7 | |
| 2,4,6-Tribromophenol | 0.153 | 0.182 | -19.0 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB2

Instrument ID: 50C Calibration date: 03/25/90 Time: 1728

Lab File ID: BIC03259002 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.525 | 1.659 | -8.8 | |
| 2,4-Dinitrotoluene | 0.384 | 0.400 | -4.2 | |
| Diethylphthalate | 1.318 | 1.425 | -8.1 | |
| 4-Chlorophenyl-phenylether | 0.579 | 0.636 | -9.8 | |
| Fluorene | 1.129 | 1.269 | -12.4 | |
| 4-Nitroaniline | 0.350 | 0.327 | 6.6 | |
| 4,6-Dinitro-2-Methylphenol | 0.144 | 0.143 | 0.7 | |
| N-Nitrosodiphenylamine (1) | * 0.562 | 0.572 | -1.8 | * |
| 4-Bromophenyl-phenylether | 0.224 | 0.230 | -2.7 | |
| Hexachlorobenzene | 0.226 | 0.250 | -10.6 | |
| Pentachlorophenol | * 0.137 | 0.142 | -3.7 | * |
| Phenanthrene | 1.120 | 1.117 | 0.3 | |
| Anthracene | 1.129 | 1.139 | -0.9 | |
| Di-n-Butylphthalate | 1.468 | 1.623 | -10.6 | |
| Fluoranthene | * 1.044 | 1.134 | -8.6 | * |
| Pyrene | 1.360 | 1.356 | 0.3 | |
| Butylbenzylphthalate | 0.806 | 0.840 | -4.2 | |
| 3,3'-Dichlorobenzidine | 0.372 | 0.401 | -7.8 | |
| Benzo(a)Anthracene | 1.157 | 1.193 | -3.1 | |
| Chrysene | 0.976 | 0.977 | -0.1 | |
| bis(2-Ethylhexyl)Phthalate | 1.055 | 1.235 | -17.1 | |
| Di-n-Octyl Phthalate | * 1.619 | 1.905 | -17.7 | * |
| Benzo(b)Fluoranthene | 1.505 | 1.523 | -1.2 | |
| Benzo(k)Fluoranthene | 1.069 | 0.902 | 15.6 | |
| Benzo(a)Pyrene | * 1.207 | 1.242 | -2.9 | * |
| Indeno(1,2,3-cd)Pyrene | 0.961 | 1.083 | -12.7 | |
| Dibenz(a,h)Anthracene | 0.881 | 0.977 | -10.9 | |
| Benzo(g,h,i)Perylene | 0.969 | 0.998 | -3.0 | |
| Nitrobenzene-d5 | 0.471 | 0.474 | -0.6 | |
| 2-Fluorobiphenyl | 1.169 | 1.347 | -15.2 | |
| Terphenyl-d14 | 1.097 | 1.040 | 5.2 | |
| Phenol-d5 | 1.940 | 1.932 | 0.4 | |
| 2-Fluorophenyl | 1.436 | 1.535 | -6.9 | |
| 2,4,6-Tribromophenol | 0.153 | 0.195 | -27.5 | |

(1) Cannot be separated from Diphenylamine

HALLIBURTON NUS
*Environmental Corporation*

INTERNAL CORRESPONDENCE

C-49-7-0-1

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990 (Revised 10/91) DEC 10/91

**FROM:** DEBRA A. SCHEIB

**CC:** FILE

**SUBJECT:** INORGANIC DATA VALIDATION - METALS & CYANIDE
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB2

**SAMPLES:**

Soil: T-SU-

| | | | |
|---|---|---|---|
| SB101B | SB104C | SB107C | RB-FEB15A |
| SB101C | SB105A | SB108A | |
| SB102B | SB106A | SB109A | |
| SB102C | SB106X | SB111X | |
| SB103B | SB107A | SB112A | |
| SB104B | SB107B | SB112X | |

NUS Laboratories analyzed 11 soil samples and 1 rinsate blank for Target Analyte List (TAL) Metals and cyanide. In addition, 7 samples were analyzed for mercury and cyanide only. Three field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- o Data completeness
- o Holding times
- * o Calibration verification
- * o Laboratory blank analyses
- o ICP interference check sample results
- * o Matrix spike recoveries
- o Laboratory duplicates
- * o Field duplicates
- o Laboratory control sample results
- o Furnace atomic absorption results
- o Serial dilution analysis
- o Detection limits
- o Sample quantitation

* - Quality Control Criteria not met for this parameter.

**FIELD DUPLICATES**

Samples SB106A and SB106X constitute a field duplicate pair as well as samples SB112A and SB112X. The original samples were analyzed for total metals, however, the duplicate samples were analyzed for mercury and cyanide only. No positive results for cyanide were detected in the field duplicate pairs. Results for mercury exceed the 50% field duplicate RPD (Relative Percent Difference) quality criteria for soils. Hence, all positive results for mercury are qualified as estimated, "J".

Field duplicate sample SB111X was included in this data set, however, the original sample is not. Therefore, no statistical field duplicate comparisons were made.

Please do not hesitate to contact me if you have questions regarding this review.

Rinsate Blank (FEB15A)

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H18410

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB01

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 02/17/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11.1 | [redacted] | | P |
| 7440-36-0 | Antimony | 1.1 | U | [redacted] | F |
| 7440-38-2 | Arsenic | 0.27 | U | | F |
| 7440-39-3 | Barium | 3.4 | U | | P |
| 7440-41-7 | Beryllium | 0.30 | U | | P |
| 7440-43-9 | Cadmium | 0.58 | U | | P |
| 7440-70-2 | Calcium | 1.6 | U | | P |
| 7440-47-3 | Chromium | 1.5 | U | | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 2.5 | [redacted] | | P |
| 7439-89-6 | Iron | 6.9 | [redacted] | | P |
| 7439-92-1 | Lead | 0.14 | U | | F |
| 7439-95-4 | Magnesium | 87.3 | U | | A |
| 7439-96-5 | Manganese | 0.73 | U | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 1.9 | U | | P |
| 7440-09-7 | Potassium | 65.5 | [redacted] | | A |
| 7782-49-2 | Selenium | 0.39 | U | [redacted] | F |
| 7440-22-4 | Silver | 1.4 | U | | P |
| 7440-23-5 | Sodium | 86.4 | U | | A |
| 7440-28-0 | Thallium | 0.25 | U | | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 3.6 | [redacted] | | P |
| | Cyanide | 0.22 | U | | C |

Color Before: CLEAR Clarity Before: CLEAR Texture: WATER

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-FEB15A

U.S. EPA - CLP

3
BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB02

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): ~~MG/KG~~

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | | |
| Antimony | | | | | | | | | | | |
| Arsenic | | | | | | | | | | | |
| Barium | | | | | | | | | | | |
| Beryllium | | | | | | | | | | | |
| Cadmium | | | | | | | | | | | |
| Calcium | | | | | | | | | | | |
| Chromium | | | | | | | | | | | |
| Cobalt | | | | | | | | | | | |
| Copper | | | | | | | | | | | |
| Iron | -13.0 | B | -9.0 | B | | | | | | | P |
| Lead | | | | | | | | | | | |
| Magnesium | | | | | | | | | | | |
| Manganese | | | | | | | | | | | |
| Mercury | 0.1 | U | 0.1 | U | 0.1 | B | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | | | | | | | P |
| Potassium | | | | | | | | | | | |
| Selenium | | | | | | | | | | | |
| Silver | | | | | | | | | | | |
| Sodium | 435.1 | U | 435.1 | U | | | | | | | A |
| Thallium | | | | | | | | | | | |
| Vanadium | | | | | | | | | | | |
| Zinc | | | | | | | | | | | |
| Cyanide | | | | | | | | | | | |
| | | | | | | | | | | | |

Prep. blanks in ug/L ; see case narrative.

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB01

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): ~~MG/KG~~ ug/kg

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Preparation Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 21.0 | B | 20.9 | U | | | 44.000 | B | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | 5.3 | U | 5.300 | U | P |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.400 | U | P |
| Barium | 17.3 | U | 17.3 | U | 17.3 | U | | | 17.300 | U | P |
| Beryllium | 1.5 | U | 1.5 | U | 1.5 | U | | | 1.500 | U | P |
| Cadmium | 2.9 | U | 2.9 | U | 2.9 | U | 2.9 | U | 2.900 | U | P |
| Calcium | 36.0 | B | 22.0 | B | 18.0 | B | | | -80.000 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | | | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | 6.0 | U | 6.0 | U | 6.000 | U | P |
| Copper | -12.4 | B | -8.7 | B | -11.4 | B | | | -8.900 | B | P |
| Iron | 14.0 | B | 17.0 | B | 14.0 | B | | | 28.000 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.700 | U | P |
| Magnesium | 439.8 | U | 439.8 | U | | | | | 439.800 | U | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | | | 3.700 | U | P |
| Mercury | 0.1 | U | 0.1 | U | | | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | 9.8 | U | 9.800 | U | P |
| Potassium | 230.0 | B | 270.0 | B | | | | | 300.000 | B | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.000 | U | P |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | | | 7.400 | U | P |
| Sodium | 435.1 | U | 435.1 | U | | | | | 435.100 | U | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.300 | U | P |
| Vanadium | -7.5 | B | -10.6 | B | -8.3 | B | | | -9.900 | B | P |
| Zinc | 5.2 | B | 7.9 | B | 7.3 | B | 6.4 | B | 10.100 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | 9.1 | U | 9.1 | U | 9.100 | U | C |

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-7-0-53

**TO:** JAMES WEDEKIND

**DATE:** JULY 2, 1990

**FROM:** TOM ECKLE

**COPIES:** D. A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE TAFB1, SDG TAFB3

SAMPLES: SOIL: T-SU-

| | |
|---|---|
| SB108B | SB-111B |
| SB109B | SB-111C |
| SB109C | SB-112B |
| SB111A | |

SOIL: T-

| | |
|---|---|
| FB-FEB16A | TB-FEB16B |
| FB-FEB17A | TB-FEB16C |
| RB-FEB16A | TB-FEB17A |
| RB-FEB17A | TB-FEB17B |
| TB-FEB16A | TB-FEB17C |

NUS Laboratories analyzed 7 soil samples 1 field blank and 1 rinsate blank for Target Compound List (TCL) volatile and semivolatile compounds. Additionally, 1 field blank, 1 rinsate blank and 6 trip blanks were analyzed for TCL volatile compounds only. No field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation", and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were performed under HAZWRAP Level D QA/QC requirements and were evaluated based on the following criteria:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory and field blank analyses
- Initial and continuing calibration
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Internal standards performance
- Sample quantitation
- Detection limits

Data which did not meet quality control criteria are discussed below.

The % RSD for chloroethane and carbon disulfide exceeded 30%. No qualifications were made, however, because no positive results were reported for these compounds in affected samples.

Some continuing calibration Percent Differences (%Ds) for several compounds exceeded 50%. Non-detects in affected samples are qualified as estimated, "UJ".

The positive results for 2-butanone in samples T-SU-SB111A & T-SU-SB111C, and for 4-methyl-2-pentanone in sample T-SU-SB111A are qualified as estimated, "J" as they are below the CRQL.

No Tentatively Identified Compounds (TICs) were detected in samples analyzed for this fraction.

Semivolatile Fraction

All of the soil boring samples analyzed were determined to be free of environmental contamination; only the laboratory contaminant bis(2-ethylhexyl) phthalate was detected.

The 7-day holding time allowance for extraction was exceeded by 2-3 days for all of the samples contained in this sample set. No actions were taken, however, as this minor exceedence did not significantly impact the quality of the data generated.

Analyses of field, rinsate and laboratory method blanks yielded the following contaminants:

| Contaminant | Maximum Concentration (ug/kg) |
|---|---|
| Pyrene | 64 |
| **Common Contaminant** | |
| Bis(2-ethylhexyl)phthalate | 50 |

Action levels of 320 ug/kg and 500 ug/kg, respectively, were used to evaluate the sample data. Adjustments for individual sample size and moisture content were made prior to application of the action levels. No qualifications were made for pyrene as no positive sample results were reported for this compound. Sample contaminant concentrations below the CRQL have been deleted (i.e. values have been replaced by the CRQL, then qualified "U", undetected.)

The 30% RSD initial calibration criteria was exceeded for 3,3'-dichlorobenzidine. No qualifications were made, however, as no

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB3

TABLE 1 - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB108B | $A^{1,2,3,4,5,6}$, $J^{2}$, $R^{1}$ | $A^{8}$ |
| T-SU-SB109B | $A^{1,2,3}$, $J^{2}$, $R^{1}$ | $A^{8}$ |
| T-SU-SB109C | $A^{1,2,3,4}$, $J^{2}$, $R^{1}$ | |
| T-SU-SB111A | $A^{1,2,3,4}$, $J^{1,3}$ | $A^{8}$ |
| T-SU-SB111B | $A^{2,3,4}$, $J^{1}$ | $A^{8}$ |
| T-SU-SB111C | $A^{1,2,3,4}$, $J^{1,3}$ | |
| T-SU-SB112B | $J^{1,2}$ | $A^{8}$ |

$A^{1}$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

$A^{2}$ - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

$A^{3}$ - Accept data but change positive result for chloroform to a revised detection limit due to blank contamination.

$A^{4}$ - Accept data but change positive result for benzene to a revised detection limit due to blank contamination.

$A^{5}$ - Accept data but change positive result for tetrachloroethene to a revised detection limit due to blank contamination.

$A^{6}$ - Accept data but change positive result for toluene to a revised detection limit due to blank contamination.

$A^{7}$ - Accept data but change positive result for styrene to a revised detection limit due to blank contamination.

$A^{8}$ - Accept data but change positive result for bis(2-ethylhexyl) phthalate to a revised detection limit due to blank contamination.

$J^{1}$ - Estimate "UJ" nondetects for chloromethane because of initial calibration %RSD > 50.

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCF

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCF

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02219003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCH

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCH

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02229002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCL

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCL

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02269004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/26/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 1 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 2 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCP

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCP

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03019004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/01/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 5 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 1 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 0.6 | J |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCO

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCO

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02283003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/28/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 2 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 0.5 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 0.5 | J |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 0.5 | J |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118431

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02219010

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. ____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118430

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02219009

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | 0 |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 3 | [redacted] |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 3 | [redacted] |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBFEB16B

Name: NUS HOUSTON Contract: 4M410

Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118518

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02223007

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. _____ Date Analyzed: 02/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | [redacted] |
| 67-64-1 | Acetone | 10 | |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 7 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 2 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118432

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02219011

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 12 | |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 6 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBFEB17C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118434

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02219013

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. ____ Date Analyzed: 02/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 0.8 | [redacted] |
| 67-64-1 | Acetone | 5 | [redacted] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TFBFEB16A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118516

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02279005

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: 5.7 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 64 | J |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 47 | BJ |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TFBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118431

Sample wt/vol: 90.0 (g/mL) G Lab File ID: 5BP02279013

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. dec. Date Extracted: 02/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TRBFEB16A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118517

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02279007

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: 5.6 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 40 | J |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 50 | JB |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TRBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

ab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118430

Sample wt/vol: 80.0 (g/mL) G Lab File ID: 5BP03019003

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. dec. Date Extracted: 02/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/01/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCG

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCG

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02219005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLK01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02229005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 8 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 2 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCM

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCM

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02279004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG 0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 4 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 0.5 | J |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCN

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCN

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT02289007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 02/28/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 1 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.3 | J |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 1 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 0.9 | J |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT02239002 RRF50 = 3VT02239003
RRF100= 3VT02239004 RRF150= 3VT02239005 RRF200= 3VT02239006

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 1.648 | 2.385 | 2.371 | 2.200 | 2.100 | 2.141 | 14.0# |
| Bromomethane | 1.669 | 1.933 | 1.715 | 1.527 | 1.348 | 1.638 | 13.3 |
| Vinyl Chloride * | 1.814 | 2.541 | 2.555 | 2.078 | 1.811 | 2.160 | 17.2* |
| Chloroethane | 1.135 | 1.393 | 1.354 | 1.252 | 0.949 | 1.217 | 14.8 |
| Methylene Chloride | 1.913 | 1.754 | 1.972 | 1.858 | 1.609 | 1.821 | 7.9 |
| Acetone | 0.942 | 1.283 | 1.342 | 1.254 | 1.095 | 1.183 | 13.8 |
| Carbon Disulfide | 2.669 | 2.906 | 5.069 | 4.784 | 3.665 | 3.819 | 28.3 |
| 1,1-Dichloroethene * | 1.218 | 0.909 | 1.283 | 1.279 | 1.371 | 1.212 | 14.7* |
| 1,1-Dichloroethane # | 2.612 | 1.612 | 1.826 | 1.929 | 1.818 | 1.959 | 19.5# |
| 1,2-Dichloroethene (total) | 0.996 | 1.033 | 1.382 | 1.414 | 1.233 | 1.212 | 15.9 |
| Chloroform * | 2.078 | 2.190 | 2.371 | 2.430 | 2.176 | 2.249 | 6.5* |
| 1,2-Dichloroethane | 1.134 | 1.297 | 1.478 | 1.536 | 1.426 | 1.374 | 11.7 |
| 2-Butanone | 0.027 | 0.031 | 0.038 | 0.040 | 0.041 | 0.035 | 17.5 |
| 1,1,1-Trichloroethane | 0.482 | 0.461 | 0.514 | 0.504 | 0.501 | 0.492 | 4.3 |
| Carbon Tetrachloride | 0.459 | 0.435 | 0.506 | 0.477 | 0.469 | 0.469 | 5.5 |
| Vinyl Acetate | 0.449 | 0.416 | 0.459 | 0.505 | 0.556 | 0.477 | 11.4 |
| Bromodichloromethane | 0.496 | 0.488 | 0.528 | 0.530 | 0.551 | 0.519 | 5.0 |
| 1,2-Dichloropropane * | 0.234 | 0.225 | 0.261 | 0.273 | 0.288 | 0.256 | 10.3* |
| cis-1,3-Dichloropropene | 0.474 | 0.468 | 0.527 | 0.546 | 0.570 | 0.517 | 8.7 |
| Trichloroethene | 0.407 | 0.384 | 0.447 | 0.438 | 0.427 | 0.421 | 6.0 |
| Dibromochloromethane | 0.556 | 0.537 | 0.591 | 0.568 | 0.595 | 0.569 | 4.3 |
| 1,1,2-Trichloroethane | 0.289 | 0.283 | 0.321 | 0.317 | 0.339 | 0.310 | 7.5 |
| Benzene | 0.800 | 0.722 | 0.875 | 0.900 | 0.895 | 0.838 | 9.1 |
| trans-1,3-Dichloropropene | 0.252 | 0.243 | 0.276 | 0.284 | 0.303 | 0.272 | 8.9 |
| Bromoform # | 0.442 | 0.431 | 0.476 | 0.457 | 0.493 | 0.460 | 5.5# |
| 4-Methyl-2-Pentanone | 0.295 | 0.280 | 0.317 | 0.333 | 0.365 | 0.318 | 10.4 |
| 2-Hexanone | 0.234 | 0.230 | 0.246 | 0.257 | 0.281 | 0.250 | 8.2 |
| Tetrachloroethene | 0.409 | 0.383 | 0.444 | 0.437 | 0.422 | 0.419 | 5.8 |
| 1,1,2,2-Tetrachloroethane # | 0.463 | 0.464 | 0.530 | 0.551 | 0.619 | 0.525 | 12.5# |
| Toluene * | 0.625 | 0.600 | 0.695 | 0.694 | 0.696 | 0.662 | 7.0* |
| Chlorobenzene # | 0.902 | 0.870 | 0.959 | 0.964 | 0.978 | 0.935 | 5.0# |
| Ethylbenzene * | 0.437 | 0.424 | 0.466 | 0.475 | 0.479 | 0.456 | 5.3* |
| Styrene | 0.965 | 0.934 | 1.004 | 1.013 | 1.020 | 0.987 | 3.7 |
| Xylene (total) | 0.597 | 0.591 | 0.610 | 0.607 | 0.599 | 0.601 | 1.3 |
| Toluene-d8 | 0.418 | 1.005 | 2.040 | 3.053 | 4.022 | 2.108 | 69.7 |
| BFB | 0.249 | 0.596 | 1.186 | 1.772 | 2.364 | 1.233 | 69.6 |
| 1,2-Dichloroethane-d4 | 0.447 | 1.278 | 2.680 | 4.166 | 5.132 | 2.741 | 71.0 |

T-SU-SB108B
T-SU-SB109B
T-SU-SB109C

6A

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration Date(s): 02/16/90 02/16/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT02159006 RRF50 = 3VT02159005
RRF100= 3VT02159007 RRF150= 3VT02159008 RRF200= 3VT02159009

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 2.250 | 2.258 | 2.395 | 2.386 | 2.194 | 2.297 | 3.9# |
| Bromomethane | 1.887 | 1.843 | 1.981 | 1.893 | 1.720 | 1.865 | 5.1 |
| Vinyl Chloride * | 2.294 | 2.207 | 2.473 | 2.570 | 2.449 | 2.399 | 6.1* |
| Chloroethane | 1.389 | 1.296 | 1.325 | 1.295 | 1.184 | 1.298 | 5.7 |
| Methylene Chloride | 1.990 | 1.813 | 1.852 | 1.806 | 1.596 | 1.811 | 7.8 |
| Acetone | 0.784 | 0.614 | 0.677 | 0.634 | 0.503 | 0.642 | 15.9 |
| Carbon Disulfide | 4.743 | 4.773 | 4.631 | 4.320 | 3.535 | 4.400 | 11.7 |
| 1,1-Dichloroethene * | 1.413 | 1.522 | 1.248 | 1.245 | 1.349 | 1.355 | 8.6* |
| 1,1-Dichloroethane # | 2.323 | 2.225 | 2.224 | 2.207 | 2.006 | 2.197 | 5.3# |
| 1,2-Dichloroethene (total) | 1.393 | 1.374 | 1.397 | 1.375 | 1.202 | 1.348 | 6.1 |
| Chloroform * | 2.811 | 2.602 | 2.651 | 2.603 | 2.356 | 2.605 | 6.3* |
| 1,2-Dichloroethane | 1.740 | 1.718 | 1.738 | 1.706 | 1.514 | 1.683 | 5.7 |
| 2-Butanone | 0.024 | 0.020 | 0.024 | 0.023 | 0.021 | 0.022 | 8.3 |
| 1,1,1-Trichloroethane | 0.523 | 0.514 | 0.522 | 0.517 | 0.505 | 0.516 | 1.4 |
| Carbon Tetrachloride | 0.469 | 0.473 | 0.478 | 0.477 | 0.469 | 0.473 | 0.9 |
| Vinyl Acetate | 0.565 | 0.564 | 0.526 | 0.520 | 0.496 | 0.534 | 5.6 |
| Bromodichloromethane | 0.573 | 0.569 | 0.564 | 0.569 | 0.559 | 0.567 | 1.0 |
| 1,2-Dichloropropane * | 0.308 | 0.300 | 0.289 | 0.292 | 0.286 | 0.295 | 3.0* |
| cis-1,3-Dichloropropene | 0.591 | 0.590 | 0.579 | 0.579 | 0.564 | 0.581 | 1.9 |
| Trichloroethene | 0.418 | 0.409 | 0.408 | 0.407 | 0.397 | 0.408 | 1.8 |
| Dibromochloromethane | 0.531 | 0.534 | 0.542 | 0.549 | 0.543 | 0.540 | 1.3 |
| 1,1,2-Trichloroethane | 0.287 | 0.284 | 0.286 | 0.292 | 0.287 | 0.287 | 1.0 |
| Benzene | 0.963 | 0.947 | 0.892 | 0.897 | 0.878 | 0.915 | 4.1 |
| trans-1,3-Dichloropropene | 0.292 | 0.299 | 0.296 | 0.296 | 0.292 | 0.295 | 1.0 |
| Bromoform # | 0.365 | 0.364 | 0.380 | 0.391 | 0.383 | 0.377 | 3.1# |
| 4-Methyl-2-Pentanone | 0.276 | 0.267 | 0.245 | 0.241 | 0.227 | 0.251 | 8.0 |
| 2-Hexanone | 0.229 | 0.203 | 0.205 | 0.199 | 0.177 | 0.203 | 9.1 |
| Tetrachloroethene | 0.441 | 0.426 | 0.420 | 0.415 | 0.402 | 0.421 | 3.4 |
| 1,1,2,2-Tetrachloroethane # | 0.458 | 0.451 | 0.438 | 0.453 | 0.439 | 0.448 | 2.0# |
| Toluene * | 0.764 | 0.736 | 0.710 | 0.704 | 0.690 | 0.721 | 4.1* |
| Chlorobenzene # | 1.027 | 0.995 | 0.976 | 0.970 | 0.951 | 0.984 | 2.9# |
| Ethylbenzene * | 0.505 | 0.488 | 0.472 | 0.466 | 0.455 | 0.477 | 4.1* |
| Styrene | 1.095 | 1.038 | 1.018 | 1.019 | 1.010 | 1.036 | 3.3 |
| Xylene (total) | 0.524 | 0.501 | 0.488 | 0.490 | 0.485 | 0.498 | 3.2 |
| Toluene-d8 | 1.008 | 0.997 | 0.986 | 0.989 | 0.987 | 0.993 | 0.9 |
| BFB | 0.607 | 0.605 | 0.607 | 0.621 | 0.628 | 0.614 | 1.7 |
| 1,2-Dichloroethane-d4 | 1.418 | 1.452 | 1.540 | 1.611 | 1.501 | 1.504 | 5.0 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration date: 02/21/90 Time: 1958

Lab File ID: 3VT02219004 Init. Calib. Date(s): 02/16/90 02/16/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.297 | 2.495 | -8.6 | # |
| Bromomethane | | 1.865 | 2.126 | -14.0 | |
| Vinyl Chloride | * | 2.399 | 2.590 | -8.0 | * |
| Chloroethane | | 1.298 | 1.320 | -1.7 | |
| Methylene Chloride | | 1.811 | 1.964 | -8.4 | |
| Acetone | | 0.642 | 0.454 | 29.3 | |
| Carbon Disulfide | | 4.400 | 5.050 | -14.8 | |
| 1,1-Dichloroethene | * | 1.355 | 1.330 | 1.8 | * |
| 1,1-Dichloroethane | # | 2.197 | 1.824 | 17.0 | # |
| 1,2-Dichloroethene (total) | | 1.348 | 1.274 | 5.5 | |
| Chloroform | * | 2.605 | 2.306 | 11.5 | * |
| 1,2-Dichloroethane | | 1.683 | 1.323 | 21.4 | |
| 2-Butanone | | 0.022 | 0.013 | 40.9 | |
| 1,1,1-Trichloroethane | | 0.516 | 0.484 | 6.2 | |
| Carbon Tetrachloride | | 0.473 | 0.458 | 3.2 | |
| Vinyl Acetate | | 0.534 | 0.386 | 27.7 | |
| Bromodichloromethane | | 0.567 | 0.512 | 9.7 | |
| 1,2-Dichloropropane | * | 0.295 | 0.250 | 15.3 | * |
| cis-1,3-Dichloropropene | | 0.581 | 0.507 | 12.7 | |
| Trichloroethene | | 0.408 | 0.410 | -0.5 | |
| Dibromochloromethane | | 0.540 | 0.516 | 4.4 | |
| 1,1,2-Trichloroethane | | 0.287 | 0.260 | 9.4 | |
| Benzene | | 0.915 | 0.851 | 7.0 | |
| trans-1,3-Dichloropropene | | 0.295 | 0.247 | 16.3 | |
| Bromoform | # | 0.377 | 0.347 | 8.0 | # |
| 4-Methyl-2-Pentanone | | 0.251 | 0.167 | 33.5 | |
| 2-Hexanone | | 0.203 | 0.121 | 40.4 | |
| Tetrachloroethene | | 0.421 | 0.402 | 4.5 | |
| 1,1,2,2-Tetrachloroethane | # | 0.448 | 0.353 | 21.2 | # |
| Toluene | * | 0.721 | 0.648 | 10.1 | * |
| Chlorobenzene | # | 0.984 | 0.909 | 7.6 | # |
| Ethylbenzene | * | 0.477 | 0.436 | 8.6 | * |
| Styrene | | 1.036 | 0.971 | 6.3 | |
| Xylene (total) | | 0.498 | 0.607 | -21.9 | |
| Toluene-d8 | | 0.993 | 0.984 | 0.9 | |
| BFB | | 0.614 | 0.584 | 4.9 | |
| 1,2-Dichloroethane-d4 | | 1.504 | 1.222 | 18.8 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration date: 02/22/90 Time: 2136

Lab File ID: 3VT02229004 Init. Calib. Date(s): 02/16/90 02/16/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 2.297 | 2.673 | -16.4 | # |
| Bromomethane | 1.865 | 2.128 | -14.1 | |
| Vinyl Chloride | 2.399 | 2.546 | -6.1 | * |
| Chloroethane | 1.298 | 1.409 | -8.6 | |
| Methylene Chloride | 1.811 | 1.996 | -10.2 | |
| Acetone | 0.642 | 0.526 | 18.1 | |
| Carbon Disulfide | 4.400 | 5.472 | -24.4 | |
| 1,1-Dichloroethene | 1.355 | 1.154 | 14.8 | * |
| 1,1-Dichloroethane | 2.197 | 1.824 | 17.0 | # |
| 1,2-Dichloroethene (total) | 1.348 | 1.259 | 6.6 | |
| Chloroform | 2.605 | 2.314 | 11.2 | * |
| 1,2-Dichloroethane | 1.683 | 1.307 | 22.3 | |
| 2-Butanone | 0.022 | 0.014 | 36.4 | |
| 1,1,1-Trichloroethane | 0.516 | 0.484 | 6.2 | |
| Carbon Tetrachloride | 0.473 | 0.458 | 3.2 | |
| Vinyl Acetate | 0.534 | 0.366 | 31.5 | |
| Bromodichloromethane | 0.567 | 0.502 | 11.5 | |
| 1,2-Dichloropropane | 0.295 | 0.237 | 19.7 | * |
| cis-1,3-Dichloropropene | 0.581 | 0.477 | 17.9 | |
| Trichloroethene | 0.408 | 0.398 | 2.5 | |
| Dibromochloromethane | 0.540 | 0.492 | 8.9 | |
| 1,1,2-Trichloroethane | 0.287 | 0.245 | 14.6 | |
| Benzene | 0.915 | 0.777 | 15.1 | |
| trans-1,3-Dichloropropene | 0.295 | 0.234 | 20.7 | |
| Bromoform | 0.377 | 0.331 | 12.2 | # |
| 4-Methyl-2-Pentanone | 0.251 | 0.162 | 35.5 | |
| 2-Hexanone | 0.203 | 0.121 | 40.4 | |
| Tetrachloroethene | 0.421 | 0.400 | 5.0 | |
| 1,1,2,2-Tetrachloroethane | 0.448 | 0.342 | 23.7 | # |
| Toluene | 0.721 | 0.632 | 12.3 | * |
| Chlorobenzene | 0.984 | 0.901 | 8.4 | # |
| Ethylbenzene | 0.477 | 0.444 | 6.9 | * |
| Styrene | 1.036 | 0.962 | 7.1 | |
| Xylene (total) | 0.498 | 0.598 | -20.1 | |
| Toluene-d8 | 0.993 | 0.981 | 1.2 | |
| BFB | 0.614 | 0.584 | 4.9 | |
| 1,2-Dichloroethane-d4 | 1.504 | 1.233 | 18.0 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration date: 02/27/90 Time: 0500

Lab File ID: 3VT02279003 Init. Calib. Date(s): 02/23/90 02/23/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 2.141 | 1.624 | 24.2 | # |
| Bromomethane | | 1.638 | 1.218 | 25.6 | |
| Vinyl Chloride | * | 2.160 | 1.831 | 15.2 | * |
| Chloroethane | | 1.217 | 1.113 | 8.5 | |
| Methylene Chloride | | 1.821 | 1.647 | 9.6 | |
| Acetone | | 1.183 | 1.879 | -58.8 | ← |
| Carbon Disulfide | | 3.819 | 2.222 | 41.8 | |
| 1,1-Dichloroethene | * | 1.212 | 0.967 | 20.2 | * |
| 1,1-Dichloroethane | # | 1.959 | 1.558 | 20.5 | # |
| 1,2-Dichloroethene (total) | | 1.212 | 0.995 | 17.9 | |
| Chloroform | * | 2.249 | 2.165 | 3.7 | * |
| 1,2-Dichloroethane | | 1.374 | 1.300 | 5.4 | |
| 2-Butanone | | 0.035 | 0.063 | -80.0 | ← |
| 1,1,1-Trichloroethane | | 0.492 | 0.457 | 7.1 | |
| Carbon Tetrachloride | | 0.469 | 0.456 | 2.8 | |
| Vinyl Acetate | | 0.477 | 0.588 | -23.3 | |
| Bromodichloromethane | | 0.519 | 0.565 | -8.9 | |
| 1,2-Dichloropropane | * | 0.256 | 0.265 | -3.5 | * |
| cis-1,3-Dichloropropene | | 0.517 | 0.549 | -6.2 | |
| Trichloroethene | | 0.421 | 0.390 | 7.4 | |
| Dibromochloromethane | | 0.569 | 0.668 | -17.4 | |
| 1,1,2-Trichloroethane | | 0.310 | 0.370 | -19.4 | |
| Benzene | | 0.838 | 0.793 | 5.4 | |
| trans-1,3-Dichloropropene | | 0.272 | 0.291 | -7.0 | |
| Bromoform | # | 0.460 | 0.573 | -24.6 | # |
| 4-Methyl-2-Pentanone | | 0.318 | 0.577 | -81.5 | ← |
| 2-Hexanone | | 0.250 | 0.455 | -82.0 | ← |
| Tetrachloroethene | | 0.419 | 0.395 | 5.7 | |
| 1,1,2,2-Tetrachloroethane | # | 0.525 | 0.756 | -44.0 | # |
| Toluene | * | 0.662 | 0.641 | 3.2 | * |
| Chlorobenzene | # | 0.935 | 0.945 | -1.1 | # |
| Ethylbenzene | * | 0.456 | 0.439 | 3.7 | * |
| Styrene | | 0.987 | 0.956 | 3.1 | |
| Xylene (total) | | 0.601 | 0.665 | -10.7 | |
| Toluene-d8 | | 2.108 | 1.016 | 51.8 | ← |
| BFB | | 1.233 | 0.606 | 50.9 | ← |
| 1,2-Dichloroethane-d4 | | 2.741 | 1.245 | 54.6 | ← |

T-SU-SB 109B
T-SU-SB 109C

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500B Calibration date: 02/28/90 Time: 1434

Lab File ID: 3VT02283008 Init. Calib. Date(s): 02/28/90 02/28/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.955 | 1.121 | -17.4 | # |
| Bromomethane | | 0.884 | 0.915 | -3.5 | |
| Vinyl Chloride | * | 1.413 | 1.630 | -15.4 | * |
| Chloroethane | | 0.638 | 0.883 | -38.4 | |
| Methylene Chloride | | 1.593 | 1.645 | -3.3 | |
| Acetone | | 2.084 | 3.455 | -65.8 | |
| Carbon Disulfide | | 2.400 | 2.670 | -11.3 | |
| 1,1-Dichloroethene | * | 1.276 | 1.351 | -5.9 | * |
| 1,1-Dichloroethane | # | 2.162 | 2.171 | -0.4 | # |
| 1,2-Dichloroethene (total) | | 1.248 | 1.254 | -0.5 | |
| Chloroform | * | 2.360 | 2.513 | -6.5 | * |
| 1,2-Dichloroethane | | 1.682 | 1.806 | -7.4 | |
| 2-Butanone | | 0.100 | 0.132 | -32.0 | |
| 1,1,1-Trichloroethane | | 0.432 | 0.464 | -7.4 | |
| Carbon Tetrachloride | | 0.407 | 0.442 | -8.6 | |
| Vinyl Acetate | | 0.790 | 0.822 | -4.1 | |
| Bromodichloromethane | | 0.549 | 0.596 | -8.6 | |
| 1,2-Dichloropropane | * | 0.319 | 0.325 | -1.9 | * |
| cis-1,3-Dichloropropene | | 0.590 | 0.620 | -5.1 | |
| Trichloroethene | | 0.373 | 0.398 | -6.7 | |
| Dibromochloromethane | | 0.556 | 0.598 | -7.6 | |
| 1,1,2-Trichloroethane | | 0.360 | 0.381 | -5.8 | |
| Benzene | | 0.886 | 0.946 | -6.8 | |
| trans-1,3-Dichloropropene | | 0.312 | 0.326 | -4.5 | |
| Bromoform | # | 0.494 | 0.522 | -5.7 | # |
| 4-Methyl-2-Pentanone | | 0.797 | 0.851 | -6.8 | |
| 2-Hexanone | | 0.719 | 0.778 | -8.2 | |
| Tetrachloroethene | | 0.367 | 0.390 | -6.3 | |
| 1,1,2,2-Tetrachloroethane | # | 0.807 | 0.834 | -3.3 | # |
| Toluene | * | 0.680 | 0.714 | -5.0 | * |
| Chlorobenzene | # | 0.904 | 0.956 | -5.8 | # |
| Ethylbenzene | * | 0.438 | 0.455 | -3.9 | * |
| Styrene | | 1.004 | 0.963 | 4.1 | |
| Xylene (total) | | 0.604 | 0.639 | -5.8 | |
| Toluene-d8 | | 1.055 | 1.061 | -0.6 | |
| BFB | | 0.629 | 0.625 | 0.6 | |
| 1,2-Dichloroethane-d4 | | 1.670 | 1.658 | 0.7 | |

T-SU-SB111A

1L

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

119237BLANK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: 119237BLANK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: CIC03249006

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 48 | J |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Instrument ID: INCOSE Calibration date: 02/27/90 Time: 0122

Lab File ID: 5BT02279001 Init. Calib. Date(s): 02/19/90 02/19/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.887 | 1.889 | -0.1 | * |
| bis(2-Chloroethyl)Ether | | 1.673 | 1.740 | -4.0 | |
| 2-Chlorophenol | | 1.372 | 1.418 | -3.4 | |
| 1,3-Dichlorobenzene | | 1.470 | 1.560 | -6.1 | |
| 1,4-Dichlorobenzene | * | 1.382 | 1.469 | -6.3 | * |
| Benzyl Alcohol | | 0.845 | 0.616 | 27.1 | |
| 1,2-Dichlorobenzene | | 1.368 | 1.463 | -6.9 | |
| 2-Methylphenol | | 1.222 | 1.252 | -2.5 | |
| bis(2-Chloroisopropyl)Ether | | 2.560 | 2.653 | -3.6 | |
| 4-Methylphenol | | 1.265 | 1.288 | -1.8 | |
| N-Nitroso-Di-n-Propylamine | # | 1.161 | 1.211 | -4.3 | # |
| Hexachloroethane | | 0.627 | 0.650 | -3.7 | |
| Nitrobenzene | | 0.397 | 0.431 | -8.6 | |
| Isophorone | | 0.738 | 0.799 | -8.3 | |
| 2-Nitrophenol | * | 0.184 | 0.196 | -6.5 | * |
| 2,4-Dimethylphenol | | 0.303 | 0.329 | -8.6 | |
| Benzoic Acid | | 0.158 | 0.143 | 9.5 | |
| bis(2-Chloroethoxy)Methane | | 0.472 | 0.521 | -10.4 | |
| 2,4-Dichlorophenol | * | 0.263 | 0.282 | -7.2 | * |
| 1,2,4-Trichlorobenzene | | 0.286 | 0.307 | -7.3 | |
| Naphthalene | | 0.752 | 0.856 | -13.8 | |
| 4-Chloroaniline | | 0.347 | 0.361 | -4.0 | |
| Hexachlorobutadiene | * | 0.156 | 0.167 | -7.1 | * |
| 4-Chloro-3-Methylphenol | * | 0.304 | 0.333 | -9.5 | * |
| 2-Methylnaphthalene | | 0.555 | 0.618 | -11.4 | |
| Hexachlorocyclopentadiene | # | 0.107 | 0.088 | 17.8 | # |
| 2,4,6-Trichlorophenol | * | 0.323 | 0.339 | -5.0 | * |
| 2,4,5-Trichlorophenol | | 0.319 | 0.341 | -6.9 | |
| 2-Chloronaphthalene | | 0.956 | 1.028 | -7.5 | |
| 2-Nitroaniline | | 0.378 | 0.411 | -8.7 | |
| Dimethyl Phthalate | | 1.018 | 1.166 | -14.5 | |
| Acenaphthylene | | 1.241 | 1.378 | -11.0 | |
| 2,6-Dinitrotoluene | | 0.246 | 0.272 | -10.6 | |
| 3-Nitroaniline | | 0.265 | 0.269 | -1.5 | |
| Acenaphthene | * | 0.872 | 0.948 | -8.7 | * |
| 2,4-Dinitrophenol | # | 0.137 | 0.104 | 24.1 | # |
| 4-Nitrophenol | # | 0.094 | 0.085 | 9.6 | # |

T-50-SB111A

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Instrument ID: INCOSE Calibration date: 03/01/90 Time: 0708

Lab File ID: 5BT03019001 Init. Calib. Date(s): 02/19/90 02/19/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| | COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| | Phenol | 1.887 | 1.848 | 2.1 | * |
| | bis(2-Chloroethyl)Ether | 1.673 | 1.740 | -4.0 | |
| | 2-Chlorophenol | 1.372 | 1.433 | -4.4 | |
| | 1,3-Dichlorobenzene | 1.470 | 1.556 | -5.9 | |
| | 1,4-Dichlorobenzene | 1.382 | 1.458 | -5.5 | * |
| | Benzyl Alcohol | 0.845 | 0.821 | 2.8 | |
| | 1,2-Dichlorobenzene | 1.368 | 1.454 | -6.3 | |
| | 2-Methylphenol | 1.222 | 1.303 | -6.6 | |
| | bis(2-Chloroisopropyl)Ether | 2.560 | 2.641 | -3.2 | |
| | 4-Methylphenol | 1.265 | 1.353 | -7.0 | |
| # | N-Nitroso-Di-n-Propylamine | 1.161 | 1.237 | -6.5 | # |
| | Hexachloroethane | 0.627 | 0.662 | -5.6 | |
| | Nitrobenzene | 0.397 | 0.428 | -7.8 | |
| | Isophorone | 0.738 | 0.818 | -10.8 | |
| * | 2-Nitrophenol | 0.184 | 0.200 | -8.7 | * |
| | 2,4-Dimethylphenol | 0.303 | 0.335 | -10.6 | |
| | Benzoic Acid | 0.158 | 0.121 | 23.4 | |
| | bis(2-Chloroethoxy)Methane | 0.472 | 0.526 | -11.4 | |
| * | 2,4-Dichlorophenol | 0.263 | 0.285 | -8.4 | * |
| | 1,2,4-Trichlorobenzene | 0.286 | 0.315 | -10.1 | |
| | Naphthalene | 0.752 | 0.844 | -12.2 | |
| | 4-Chloroaniline | 0.347 | 0.366 | -5.5 | |
| * | Hexachlorobutadiene | 0.156 | 0.175 | -12.2 | * |
| * | 4-Chloro-3-Methylphenol | 0.304 | 0.328 | -7.9 | * |
| | 2-Methylnaphthalene | 0.555 | 0.619 | -11.5 | |
| # | Hexachlorocyclopentadiene | 0.107 | 0.087 | 18.7 | # |
| * | 2,4,6-Trichlorophenol | 0.323 | 0.346 | -7.1 | * |
| | 2,4,5-Trichlorophenol | 0.319 | 0.333 | -4.4 | |
| | 2-Chloronaphthalene | 0.956 | 1.028 | -7.5 | |
| | 2-Nitroaniline | 0.378 | 0.398 | -5.3 | |
| | Dimethyl Phthalate | 1.018 | 1.153 | -13.3 | |
| | Acenaphthylene | 1.241 | 1.375 | -10.8 | |
| | 2,6-Dinitrotoluene | 0.246 | 0.264 | -7.3 | |
| | 3-Nitroaniline | 0.265 | 0.266 | -0.4 | |
| * | Acenaphthene | 0.872 | 0.956 | -9.6 | * |
| # | 2,4-Dinitrophenol | 0.137 | 0.083 | 39.4 | # |
| # | 4-Nitrophenol | 0.094 | 0.084 | 10.6 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Instrument ID: 50C Calibration date: 03/24/90 Time: 1418

Lab File ID: BIC03249001 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.525 | 1.573 | -3.1 | |
| 2,4-Dinitrotoluene | 0.384 | 0.353 | 8.1 | |
| Diethylphthalate | 1.318 | 1.245 | 5.5 | |
| 4-Chlorophenyl-phenylether | 0.579 | 0.587 | -1.4 | |
| Fluorene | 1.129 | 1.175 | -4.1 | |
| 4-Nitroaniline | 0.350 | 0.241 | 31.1 | |
| 4,6-Dinitro-2-Methylphenol | 0.144 | 0.135 | 6.3 | |
| N-Nitrosodiphenylamine (1) | * 0.562 | 0.609 | -8.4 | * |
| 4-Bromophenyl-phenylether | 0.224 | 0.242 | -8.0 | |
| Hexachlorobenzene | 0.226 | 0.261 | -15.5 | |
| Pentachlorophenol | * 0.137 | 0.141 | -2.9 | * |
| Phenanthrene | 1.120 | 1.150 | -2.7 | |
| Anthracene | 1.129 | 1.100 | 2.6 | |
| Di-n-Butylphthalate | 1.468 | 1.464 | 0.3 | |
| Fluoranthene | * 1.044 | 0.995 | 4.7 | * |
| Pyrene | 1.360 | 1.433 | -5.4 | |
| Butylbenzylphthalate | 0.806 | 0.764 | 5.2 | |
| 3,3'-Dichlorobenzidine | 0.372 | 0.378 | -1.6 | |
| Benzo(a)Anthracene | 1.157 | 1.298 | -12.2 | |
| Chrysene | 0.976 | 0.840 | 13.9 | |
| bis(2-Ethylhexyl)Phthalate | 1.055 | 1.043 | 1.1 | |
| Di-n-Octyl Phthalate | * 1.619 | 1.633 | -0.9 | * |
| Benzo(b)Fluoranthene | 1.505 | 1.396 | 7.2 | |
| Benzo(k)Fluoranthene | 1.069 | 0.965 | 9.7 | |
| Benzo(a)Pyrene | * 1.207 | 1.151 | 4.6 | * |
| Indeno(1,2,3-cd)Pyrene | 0.961 | 1.066 | -10.9 | |
| Dibenz(a,h)Anthracene | 0.881 | 0.803 | 8.9 | |
| Benzo(g,h,i)Perylene | 0.969 | 0.981 | -1.2 | |
| Nitrobenzene-d5 | 0.471 | 0.384 | 18.5 | |
| 2-Fluorobiphenyl | 1.169 | 1.332 | -13.9 | |
| Terphenyl-d14 | 1.097 | 1.135 | -3.5 | |
| Phenol-d5 | 1.940 | 1.774 | 8.6 | |
| 2-Fluorophenyl | 1.436 | 1.283 | 10.7 | |
| 2,4,6-Tribromophenol | 0.153 | 0.182 | -19.0 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Instrument ID: 50C Calibration date: 03/25/90 Time: 1728

Lab File ID: BIC03259002 Init. Calib. Date(s): 03/21/90 03/21/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.525 | 1.659 | -8.8 | |
| 2,4-Dinitrotoluene | 0.384 | 0.400 | -4.2 | |
| Diethylphthalate | 1.318 | 1.425 | -8.1 | |
| 4-Chlorophenyl-phenylether | 0.579 | 0.636 | -9.8 | |
| Fluorene | 1.129 | 1.269 | -12.4 | |
| 4-Nitroaniline | 0.350 | 0.327 | 6.6 | |
| 4,6-Dinitro-2-Methylphenol | 0.144 | 0.143 | 0.7 | |
| N-Nitrosodiphenylamine (1) | 0.562 | 0.572 | -1.8 | * |
| 4-Bromophenyl-phenylether | 0.224 | 0.230 | -2.7 | |
| Hexachlorobenzene | 0.226 | 0.250 | -10.6 | |
| Pentachlorophenol | 0.137 | 0.142 | -3.7 | * |
| Phenanthrene | 1.120 | 1.117 | 0.3 | |
| Anthracene | 1.129 | 1.139 | -0.9 | |
| Di-n-Butylphthalate | 1.468 | 1.623 | -10.6 | |
| Fluoranthene | 1.044 | 1.134 | -8.6 | * |
| Pyrene | 1.360 | 1.356 | 0.3 | |
| Butylbenzylphthalate | 0.806 | 0.840 | -4.2 | |
| 3,3'-Dichlorobenzidine | 0.372 | 0.401 | -7.8 | |
| Benzo(a)Anthracene | 1.157 | 1.193 | -3.1 | |
| Chrysene | 0.976 | 0.977 | -0.1 | |
| bis(2-Ethylhexyl)Phthalate | 1.055 | 1.235 | -17.1 | |
| Di-n-Octyl Phthalate | 1.619 | 1.905 | -17.7 | * |
| Benzo(b)Fluoranthene | 1.505 | 1.523 | -1.2 | |
| Benzo(k)Fluoranthene | 1.069 | 0.902 | 15.6 | |
| Benzo(a)Pyrene | 1.207 | 1.242 | -2.9 | * |
| Indeno(1,2,3-cd)Pyrene | 0.961 | 1.083 | -12.7 | |
| Dibenz(a,h)Anthracene | 0.881 | 0.977 | -10.9 | |
| Benzo(g,h,i)Perylene | 0.969 | 0.998 | -3.0 | |
| Nitrobenzene-d5 | 0.471 | 0.474 | -0.6 | |
| 2-Fluorobiphenyl | 1.169 | 1.347 | -15.2 | |
| Terphenyl-d14 | 1.097 | 1.040 | 5.2 | |
| Phenol-d5 | 1.940 | 1.932 | 0.4 | |
| 2-Fluorophenyl | 1.436 | 1.535 | -6.9 | |
| 2,4,6-Tribromophenol | 0.153 | 0.195 | -27.5 | |

(1) Cannot be separated from Diphenylamine

HALLIBURTON NUS
*Environmental Corporation*

INTERNAL CORRESPONDENCE

C-49-7-0-2

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990 (Revised 10/91) DEB 10/91

**FROM:** DEBRA A. SCHEIB

**CC:** FILE

**SUBJECT:** INORGANIC DATA VALIDATION - METALS & CYANIDE
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB3

**SAMPLES:**

Soil: T-SU-

| | | | |
|---|---|---|---|
| SB108B | SB109C | SB111B | SB112B |
| SB109B | SB111A | SB111C | |

Soil: T-

| | |
|---|---|
| RB-FEB16A | FB-FEB16A |
| RB-FEB17A | FB-FEB17A |

NUS Laboratories analyzed 5 soil samples, 2 field blanks and 2 rinsate blanks for Target Analyte List (TAL) metals and cyanide. In addition, 2 soil samples were analyzed for mercury and cyanide only. No field duplicates were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- o Data completeness
- o Holding times
- * o Calibration verification
- * o Laboratory blank analyses
- o ICP interference check sample results
- * o Matrix spike recoveries
- * o Laboratory duplicates
- o Laboratory control sample results
- o Furnace atomic absorption results

(continued)

No actions were taken for calcium, aluminum, chromium, lead or iron as all positive sample results for these analytes are above their respective action levels. Positive results within the action level for potassium, zinc, copper, sodium, nickel, mercury, magnesium and beryllium are qualified "U", undetected.

**MATRIX SPIKES**

The matrix spike recovery for antimony was below the 75% lower quality control limit. No positive results were reported for antimony. Non-detects for this analyte are qualified as estimated, "UJ", and are biased low.

**LABORATORY DUPLICATES**

Results for aluminum exceed the 35% RPD (Relative Percent Difference) laboratory duplicate quality criterion for soils. All positive results for aluminum are therefore qualified as estimated, "J".

Please do not hesitate to contact me if you have questions regarding this review.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H18431

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB03

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 02/19/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 8.9 | [redacted] | | P |
| 7440-36-0 | Antimony | 1.0 | U | [redacted] | F |
| 7440-38-2 | Arsenic | 0.27 | U | | F |
| 7440-39-3 | Barium | 3.4 | U | | P |
| 7440-41-7 | Beryllium | 0.30 | U | | P |
| 7440-43-9 | Cadmium | 0.57 | U | [redacted] | P |
| 7440-70-2 | Calcium | 48.5 | [redacted] | | P |
| 7440-47-3 | Chromium | 1.6 | [redacted] | | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 2.2 | [redacted] | | P |
| 7439-89-6 | Iron | 4.7 | [redacted] | | P |
| 7439-92-1 | Lead | 0.14 | U | | F |
| 7439-95-4 | Magnesium | 86.7 | U | | A |
| 7439-96-5 | Manganese | 0.73 | U | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 1.9 | U | | P |
| 7440-09-7 | Potassium | 70.9 | [redacted] | | A |
| 7782-49-2 | Selenium | 0.39 | U | | F |
| 7440-22-4 | Silver | 1.4 | U | | P |
| 7440-23-5 | Sodium | 140 | [redacted] | | A |
| 7440-28-0 | Thallium | 0.25 | U | | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 1.9 | [redacted] | | P |
| | Cyanide | 0.23 | U | | C |

Color Before: CLEAR Clarity Before: CLEAR Texture: WATER

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-FB-FE817A

U.S. EPA - CLP

RB-FEB16A
EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H18517

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB03

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 02/19/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 14.0 | | [redacted] | P |
| 7440-36-0 | Antimony | 1.1 | U | [redacted] | F |
| 7440-38-2 | Arsenic | 0.28 | U | | F |
| 7440-39-3 | Barium | 3.5 | U | | P |
| 7440-41-7 | Beryllium | 0.30 | U | | P |
| 7440-43-9 | Cadmium | 0.58 | U | [redacted] | P |
| 7440-70-2 | Calcium | 10.8 | [redacted] | | P |
| 7440-47-3 | Chromium | 1.8 | [redacted] | | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 1.5 | [redacted] | | P |
| 7439-89-6 | Iron | 7.2 | [redacted] | | P |
| 7439-92-1 | Lead | 0.14 | U | | F |
| 7439-95-4 | Magnesium | 87.8 | U | | A |
| 7439-96-5 | Manganese | 0.74 | U | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 2.0 | U | | P |
| 7440-09-7 | Potassium | 47.9 | [redacted] | | A |
| 7782-49-2 | Selenium | 0.40 | U | | F |
| 7440-22-4 | Silver | 1.5 | U | | P |
| 7440-23-5 | Sodium | 128 | [redacted] | | A |
| 7440-28-0 | Thallium | 0.26 | U | | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 1.8 | [redacted] | | P |
| | Cyanide | 0.23 | U | | C |

Color Before: CLEAR Clarity Before: CLEAR Texture: WATER

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-FEB16A

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB03

Initial Calibration Source: E,F,IV,M

Continuing Calibration Source: E,F,IV,M

Concentration Units: ug/L

| | Initial Calibration | | | Continuing Calibration | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Analyte | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | M |
| Aluminum | 5000.0 | 5058.00 | 101.2 | 5000.0 | 4859.00 | 97.2 | | | P |
| Antimony | 100.0 | 102.80 | 102.8 | 100.0 | 101.00 | 101.0 | 103.60 | 103.6 | P |
| Arsenic | 25.0 | 24.30 | 97.2 | 25.0 | 24.20 | 96.8 | 25.00 | 100.0 | P |
| Barium | 2000.0 | 1992.50 | 99.6 | 2000.0 | 1989.40 | 99.5 | | | P |
| Beryllium | 500.0 | 492.40 | 98.5 | 500.0 | 501.00 | 100.2 | | | P |
| Cadmium | 500.0 | 512.90 | 102.6 | 500.0 | 505.00 | 101.0 | | | P |
| Calcium | 10000.0 | 9988.00 | 99.9 | 10000.0 | 10056.00 | 100.6 | 10005.00 | 100.0 | P |
| Chromium | 1000.0 | 1033.30 | 103.3 | 1000.0 | 1030.10 | 103.0 | 1031.80 | 103.2 | P |
| Cobalt | 1000.0 | 1012.50 | 101.2 | 1000.0 | 1011.50 | 101.2 | | | P |
| Copper | 1000.0 | 1006.00 | 100.6 | 1000.0 | 1008.00 | 100.8 | | | P |
| Iron | 5000.0 | 5391.00 | 107.8 | 5000.0 | 5409.00 | 108.2 | | | P |
| Lead | 25.0 | 25.00 | 100.0 | 25.0 | 25.70 | 102.8 | 25.30 | 101.2 | P |
| Magnesium | 25000.0 | 25060.00 | 100.2 | 25000.0 | 25500.00 | 102.0 | | | A |
| Manganese | 1000.0 | 1017.30 | 101.7 | 1000.0 | 1019.60 | 102.0 | 1008.00 | 100.8 | P |
| Mercury | 2.0 | 2.17 | 108.5 | 2.0 | 1.98 | 99.0 | | | CV |
| Nickel | 1000.0 | 1017.60 | 101.8 | 1000.0 | 1005.00 | 100.5 | | | P |
| Potassium | 25000.0 | 25220.00 | 100.9 | 25000.0 | 25480.00 | 101.9 | | | A |
| Selenium | 25.0 | 26.00 | 104.0 | 25.0 | 25.20 | 100.8 | 25.30 | 101.2 | P |
| Silver | 500.0 | 502.20 | 100.4 | 500.0 | 522.30 | 104.5 | | | P |
| Sodium | 25000.0 | 25260.00 | 101.0 | 25000.0 | 26210.00 | 104.8 | | | A |
| Thallium | 25.0 | 26.00 | 104.0 | 25.0 | 26.00 | 104.0 | 25.30 | 101.2 | P |
| Vanadium | 1000.0 | 1004.80 | 100.5 | 1000.0 | 1010.80 | 101.1 | | | P |
| Zinc | 1000.0 | 1001.30 | 100.1 | 1000.0 | 998.60 | 99.9 | | | P |
| Cyanide | 110.0 | 104.00 | 94.5 | 100.0 | 77.00 | 77.0 | 96.00 | 96.0 | C |

affects sample SB112B

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

3
BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB03

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

error - ug/L - See Case Narrative

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | | | | | 32.000 | B | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | | | 5.300 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | | | 1.400 | U | F |
| Barium | 17.3 | U | 17.3 | U | | | | | 17.300 | U | P |
| Beryllium | 3.0 | B | 3.0 | B | | | | | 3.100 | B | P |
| Cadmium | 2.9 | U | 2.9 | U | | | | | 2.900 | U | P |
| Calcium | 77.0 | B | 68.0 | B | | | | | 59.000 | B | P |
| Chromium | 7.6 | U | 7.6 | U | | | | | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | | | | | 6.000 | U | P |
| Copper | 13.6 | B | 11.3 | B | | | | | 13.100 | B | P |
| Iron | 4.4 | U | 4.4 | U | | | | | 19.000 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | | | 0.700 | U | F |
| Magnesium | 439.8 | U | 600.0 | B | | | | | 439.800 | U | A |
| Manganese | 3.7 | U | 3.7 | U | | | | | 3.700 | U | P |
| Mercury | 0.1 | B | 0.1 | U | | | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 10.5 | B | | | | | 9.800 | U | P |
| Potassium | 80.3 | U | 80.3 | U | | | | | 80.300 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | | | 2.000 | U | F |
| Silver | 7.4 | U | 7.4 | U | | | | | 7.400 | U | P |
| Sodium | 435.1 | U | 435.1 | U | | | | | 435.100 | U | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | | | 1.300 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | | | | | 6.500 | U | P |
| Zinc | 2.4 | B | 2.7 | B | | | | | 5.500 | B | P |
| Cyanide | | | | | | | | | | | |
| | | | | | | | | | | | |

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

H18427S

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB03

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | NR |
| Antimony | 75-125 | 12.4911 | B | 1.1339 | U | 21.5 | 58.1 | N | F |
| Arsenic | 75-125 | 8.3399 | | 0.6257 | B | 8.5 | 90.8 | | F |
| Barium | 75-125 | 487.3877 | | 33.9749 | B | 429.2 | 105.6 | | P |
| Beryllium | 75-125 | 11.5467 | | 0.3209 | U | 10.7 | 107.9 | | P |
| Cadmium | 75-125 | 28.4590 | | 16.0889 | | 10.7 | 115.6 | | P |
| Calcium | | | | | | | | | NR |
| Chromium | 75-125 | 72.2636 | | 29.0327 | | 42.9 | 100.8 | | P |
| Cobalt | 75-125 | 101.6670 | | 1.2837 | U | 107.3 | 94.8 | | P |
| Copper | 75-125 | 70.6969 | | 6.0761 | | 53.7 | 120.3 | | P |
| Iron | | | | | | | | | NR |
| Lead | 75-125 | 5.9723 | | 1.6397 | | 4.3 | 100.8 | | F |
| Magnesium | | | | | | | | | NR |
| Manganese | 75-125 | 134.9765 | | 32.4131 | | 107.3 | 95.6 | | P |
| Mercury | 75-125 | 0.5669 | | 0.0526 | U | 0.5 | 113.4 | | CV |
| Nickel | 75-125 | 108.7495 | | 5.8408 | B | 107.3 | 95.9 | | P |
| Potassium | | | | | | | | | NR |
| Selenium | 75-125 | 2.2183 | | 0.4315 | U | 2.1 | 105.6 | | F |
| Silver | 75-125 | 9.5984 | | 1.5966 | U | 10.7 | 89.7 | | P |
| Sodium | | | | | | | | | NR |
| Thallium | 75-125 | 9.2785 | | 0.2805 | U | 10.7 | 86.7 | | F |
| Vanadium | 75-125 | 114.9736 | | 3.2734 | B | 107.3 | 104.1 | | P |
| Zinc | 75-125 | 104.6932 | | 7.7021 | | 107.3 | 90.4 | | P |
| Cyanide | 75-125 | 2.4585 | | 0.2466 | U | 2.7 | 91.1 | | C |

Comments:

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-47

**TO:** JAMES WEDEKIND **DATE:** JUNE 30, 1990

**FROM:** TOM SNARE **COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB4

**SAMPLES:**

Soil: T-SU-

| | | |
|---|---|---|
| SB201A | SB202B | SB204A |
| SB201X | SB202C | SB204X |
| SB201B | SB203A | SB204B |
| SB201C | SB203B | SB204C |
| SB202A | SB203C | |

Soil: T-GW-

| | | |
|---|---|---|
| SB201A | SB202A | SB202X |

Soil: T-

| | | |
|---|---|---|
| RB-MAR06A | TB-MAR06A | TB-MAR07A |

NUS Laboratories analyzed 17 soil samples and 1 rinsate blank for Target Compound List (TCL) volatile and semivolatile compounds. In addition, 2 trip blank samples were analyzed for TCL volatile compounds only. Three field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results

(continued)

Some continuing calibration Percent Differences (%Ds) for several compounds exceeded the ±25% quality control limit. No actions were taken, however, as no positive results were reported for these compounds in affected samples.

Samples T-SU-SB201A and T-SU-SB201X; and also samples T-SU-SB204A and T-SU-SB204X, constitute field duplicate pairs. No positive results (after qualification for blank contamination) were reported for any of these samples.

Samples T-GW-SB202A and T-GW-SB202X constitute a field duplicate pair. Positive results for total-1,2-dichloroethene, trichloroethene and tetrachloroethene were reported for both samples. All results fell within acceptable limits for field duplicate precision.

Trimethyl silanol, alkyltrisiloxane isomers and one unknown (all laboratory column bleed artifacts; not environmental contaminants) were detected as Tentatively Identified Compounds (TICs) in trip and rinsate blanks analyzed with this sample set. Sample results for these TICs at concentrations less than 5X the maximum amount of TIC detected in the blanks are stricken (crossed-out) on the VOA-TIC Form I reports.

Semivolatile Fraction

The majority of samples analyzed were found to be free of semivolatile contamination. Concentrations below the CRQL were found for diethylphthalate (in sample T-SU-SB203A) and phenol (in sample T-SU-SB203C).

The initial calibration %RSD for 3,3'-dichlorobenzidine exceeded the 30% quality control criteria. No qualifications were made as no positive results were reported for this compound.

Some continuing calibration %Ds for 4-nitrophenol, 3-nitroanaline and 4-nitroanaline exceeded the ±25% quality control limit. No qualifications were made, however, as no positive results were reported for these compounds in affected samples.

The Percent Recoveries (%Rs) for 2,4-dintrotoluene and 4-nitrophenol exceeded the established upper quality control limits for the matrix spike/matrix spike duplicate (MS/MSD) analysis of sample T-SU-SB204A. No actions were taken because no positive sample results are reported for these compounds and detection limits are not affected.

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB4

TABLE I - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB201A | $A^{1,2}$ | |
| T-SU-SB201X | $A^{1,2}$ | |
| T-SU-SB201B | $A^{1,2,3}$ | |
| T-SU-SB201C | $A^{1,2,4}$ | |
| T-SU-SB202A | $A^{1,2,3}$ | |
| T-SU-SB202B | $A^{1,2,3,5}$ | |
| T-SU-SB202C | $A^{1,2,4}$ | |
| T-SU-SB203A | $A^{1,2,3,4}$ | $J^{1}$ |
| T-SU-SB203B | $A^{1,2}$ | |
| T-SU-SB203C | $A^{1,2}$ | $J^{1}$ |
| T-SU-SB204A | $A^{1,2,4}$ | |
| T-SU-SB204X | $A^{1,2,4}$ | |
| T-SU-SB204B | $A^{1,2,4}$ | |
| T-SU-SB204C | $A^{1,2,4}$ | |
| T-GW-SB201A | $A^{1,2,4}$ | |
| T-GW-SB202A | $A^{1,2}$ | |
| T-GW-SB202X | $A^{1,2,5}$ | |

$A^{1}$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

$A^{2}$ - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR06A

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134486

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403119014

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. ____ Date Analyzed: 03/12/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 3 | [illegible] |
| 67-64-1 | Acetone | 3 | [illegible] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBMAR07A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134490

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403129002

Level: (low/med) LOW Date Received: 03/06/90

% Moisture: not dec. _____ Date Analyzed: 03/12/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5U ~~1~~ / 10U ~~2~~ | [illegible] |
| 67-64-1 | Acetone | [illegible] | [illegible] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 6 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR06A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119869

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03319007

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/31/90

GPC Cleanup: (Y/N) N pH: 5.7 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Instrument ID: 32A Calibration date: 03/09/90 Time: 2113

Lab File ID: VS303099009 Init. Calib. Date(s): 03/09/90 03/09/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| | | | | |
|---|---|---|---|---|
| COMPOUND | | RRF | RRF50 | %D |
| Chloromethane | # | 0.786 | 0.689 | 12.3 # |
| Bromomethane | | 0.692 | 0.648 | 6.4 |
| Vinyl Chloride | * | 0.414 | 0.491 | -18.6 * |
| Chloroethane | | 0.292 | 0.295 | -1.0 |
| Methylene Chloride | | 0.640 | 0.712 | -11.2 |
| Acetone | | 1.601 | 1.866 | -16.6 |
| Carbon Disulfide | | 2.952 | 2.686 | 9.0 |
| 1,1-Dichloroethene | * | 1.154 | 1.075 | 6.8 * |
| 1,1-Dichloroethane | # | 1.879 | 1.725 | 8.2 # |
| 1,2-Dichloroethene (total) | | 1.228 | 1.142 | 7.0 |
| Chloroform | * | 2.334 | 2.289 | 1.9 * |
| 1,2-Dichloroethane | | 1.446 | 1.407 | 2.7 |
| 2-Butanone | | 0.228 | 0.226 | 0.9 |
| 1,1,1-Trichloroethane | | 0.488 | 0.498 | -2.0 |
| Carbon Tetrachloride | | 0.397 | 0.413 | -4.0 |
| Vinyl Acetate | | 1.253 | 1.250 | 0.2 |
| Bromodichloromethane | | 0.500 | 0.531 | -6.2 |
| 1,2-Dichloropropane | * | 0.348 | 0.337 | 3.2 * |
| cis-1,3-Dichloropropene | | 0.443 | 0.449 | -1.4 |
| Trichloroethene | | 0.477 | 0.506 | -6.1 |
| Dibromochloromethane | | 0.576 | 0.687 | -19.3 |
| 1,1,2-Trichloroethane | | 0.375 | 0.399 | -6.4 |
| Benzene | | 0.792 | 0.773 | 2.4 |
| trans-1,3-Dichloropropene | | 0.382 | 0.395 | -3.4 |
| Bromoform | # | 0.448 | 0.561 | (-25.2) # |
| 4-Methyl-2-Pentanone | | 1.385 | 1.350 | 2.5 |
| 2-Hexanone | | 1.328 | 1.340 | -0.9 |
| Tetrachloroethene | | 0.551 | 0.602 | -9.3 |
| 1,1,2,2-Tetrachloroethane | # | 0.796 | 0.813 | -2.1 # |
| Toluene | * | 0.813 | 0.785 | 3.4 * |
| Chlorobenzene | # | 1.217 | 1.255 | -3.1 # |
| Ethylbenzene | * | 0.591 | 0.593 | -0.3 * |
| Styrene | | 1.069 | 1.067 | 0.2 |
| Xylene (total) | | 0.730 | 0.727 | 0.4 |
| Toluene-d8 | | 0.881 | 0.882 | -0.1 |
| Bromofluorobenzene | | 0.893 | 0.854 | 4.4 |
| 1,2-Dichloroethane-d4 | | 1.664 | 1.590 | 4.4 |
| | | | | |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS-LSG Contract: 68-W8-0088

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Instrument ID: 45B Calibration date: 03/11/90 Time: 1102

Lab File ID: VS403119003 Init. Calib. Date(s): 02/25/90 02/25/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.204 | 1.530 | -27.1 | # |
| Bromomethane | | 1.587 | 1.632 | -2.8 | |
| Vinyl Chloride | * | 1.540 | 1.577 | -2.4 | * |
| Chloroethane | | 0.907 | 1.234 | -36.0 | |
| Methylene Chloride | | 1.922 | 1.881 | 2.1 | |
| Acetone | | 1.155 | 0.874 | 24.3 | |
| Carbon Disulfide | | 3.603 | 5.175 | -43.6 | |
| 1,1-Dichloroethene | * | 1.394 | 1.621 | -16.3 | * |
| 1,1-Dichloroethane | # | 3.046 | 3.579 | -17.5 | # |
| 1,2-Dichloroethene (total) | | 1.531 | 1.759 | -14.9 | |
| Chloroform | * | 3.495 | 3.600 | -3.0 | * |
| 1,2-Dichloroethane | | 2.667 | 2.967 | -11.2 | |
| 2-Butanone | | 0.382 | 0.330 | 13.6 | |
| 1,1,1-Trichloroethane | | 0.684 | 0.653 | 4.5 | |
| Carbon Tetrachloride | | 0.581 | 0.546 | 6.0 | |
| Vinyl Acetate | | 1.336 | 1.622 | -21.4 | |
| Bromodichloromethane | | 0.814 | 0.766 | 5.9 | |
| 1,2-Dichloropropane | * | 0.478 | 0.507 | -6.1 | * |
| cis-1,3-Dichloropropene | | 0.732 | 0.744 | -1.6 | |
| Trichloroethene | | 0.428 | 0.422 | 1.4 | |
| Dibromochloromethane | | 0.658 | 0.562 | 14.6 | |
| 1,1,2-Trichloroethane | | 0.453 | 0.408 | 9.9 | |
| Benzene | | 1.128 | 1.207 | -7.0 | |
| trans-1,3-Dichloropropene | | 0.740 | 0.717 | 3.1 | |
| Bromoform | # | 0.434 | 0.366 | 15.7 | # |
| 4-Methyl-2-Pentanone | | 1.267 | 1.527 | -20.5 | |
| 2-Hexanone | | 1.207 | 1.162 | 3.7 | |
| Tetrachloroethene | | 0.426 | 0.426 | 0.0 | |
| 1,1,2,2-Tetrachloroethane | # | 1.133 | 1.143 | -0.9 | # |
| Toluene | * | 1.062 | 1.138 | -7.2 | * |
| Chlorobenzene | # | 1.241 | 1.256 | -1.2 | # |
| Ethylbenzene | * | 0.628 | 0.653 | -4.0 | * |
| Styrene | | 1.328 | 1.259 | 5.2 | |
| Xylene (total) | | 0.847 | 0.768 | 9.3 | |
| Toluene-d8 | | 0.899 | 0.946 | -5.2 | |
| Bromofluorobenzene | | 0.753 | 0.780 | -3.6 | |
| 1,2-Dichloroethane-d4 | | 3.029 | 3.329 | -9.9 | |
| | | | | | |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

ab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Instrument ID: 45B Calibration date: 03/12/90 Time: 1015

Lab File ID: VS403129001 Init. Calib. Date(s): 02/25/90 02/25/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.204 | 1.274 | -5.8 | # |
| Bromomethane | | 1.587 | 1.402 | 11.7 | |
| Vinyl Chloride | * | 1.540 | 1.762 | -14.4 | * |
| Chloroethane | | 0.907 | 1.146 | -26.4 | |
| Methylene Chloride | | 1.922 | 1.803 | 6.2 | |
| Acetone | | 1.155 | 1.974 | -70.9 | |
| Carbon Disulfide | | 3.603 | 4.817 | -33.7 | |
| 1,1-Dichloroethene | * | 1.394 | 1.471 | -5.5 | * |
| 1,1-Dichloroethane | # | 3.046 | 3.470 | -13.9 | # |
| 1,2-Dichloroethene (total) | | 1.531 | 1.650 | -7.8 | |
| Chloroform | * | 3.495 | 3.493 | 0.1 | * |
| 1,2-Dichloroethane | | 2.667 | 2.980 | -11.7 | |
| 2-Butanone | | 0.382 | 0.521 | -36.4 | |
| 1,1,1-Trichloroethane | | 0.684 | 0.655 | 4.2 | |
| Carbon Tetrachloride | | 0.581 | 0.537 | 7.6 | |
| Vinyl Acetate | | 1.336 | 1.758 | -31.6 | |
| Bromodichloromethane | | 0.814 | 0.778 | 4.4 | |
| 1,2-Dichloropropane | * | 0.478 | 0.522 | -9.2 | * |
| cis-1,3-Dichloropropene | | 0.732 | 0.747 | -2.0 | |
| Trichloroethene | | 0.428 | 0.413 | 3.5 | |
| Dibromochloromethane | | 0.658 | 0.559 | 15.0 | |
| 1,1,2-Trichloroethane | | 0.453 | 0.417 | 7.9 | |
| Benzene | | 1.128 | 1.198 | -6.2 | |
| trans-1,3-Dichloropropene | | 0.740 | 0.699 | 5.5 | |
| Bromoform | # | 0.434 | 0.356 | 18.0 | # |
| 4-Methyl-2-Pentanone | | 1.267 | 2.082 | -64.3 | |
| 2-Hexanone | | 1.207 | 1.757 | -45.6 | |
| Tetrachloroethene | | 0.426 | 0.413 | 3.1 | |
| 1,1,2,2-Tetrachloroethane | # | 1.133 | 1.226 | -8.2 | # |
| Toluene | * | 1.062 | 1.130 | -6.4 | * |
| Chlorobenzene | # | 1.241 | 1.246 | -0.4 | # |
| Ethylbenzene | * | 0.628 | 0.650 | -3.5 | * |
| Styrene | | 1.328 | 1.254 | 5.6 | |
| Xylene (total) | | 0.847 | 0.728 | 14.0 | |
| Toluene-d8 | | 0.899 | 0.908 | -1.0 | |
| Bromofluorobenzene | | 0.753 | 0.720 | 4.4 | |
| 1,2-Dichloroethane-d4 | | 3.029 | 3.270 | -8.0 | |
| | | | | | |

trip blanks are only samples affected

7B

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Instrument ID: INCOSE Calibration date: 03/29/90 Time: 1758

Lab File ID: 5BT03299004 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.938 | 2.077 | -7.2 | * |
| bis(2-Chloroethyl)Ether | | 1.523 | 1.582 | -3.9 | |
| 2-Chlorophenol | | 1.349 | 1.424 | -5.6 | |
| 1,3-Dichlorobenzene | | 1.419 | 1.537 | -8.3 | |
| 1,4-Dichlorobenzene | * | 1.370 | 1.473 | -7.5 | * |
| Benzyl Alcohol | | 0.882 | 0.851 | 3.5 | |
| 1,2-Dichlorobenzene | | 1.309 | 1.408 | -7.6 | |
| 2-Methylphenol | | 1.253 | 1.229 | 1.9 | |
| bis(2-Chloroisopropyl)Ether | | 2.623 | 2.646 | -0.9 | |
| 4-Methylphenol | | 1.270 | 1.218 | 4.1 | |
| N-Nitroso-Di-n-Propylamine | # | 1.134 | 1.110 | 2.1 | # |
| Hexachloroethane | | 0.597 | 0.605 | -1.3 | |
| Nitrobenzene | | 0.391 | 0.432 | -10.5 | |
| Isophorone | | 0.745 | 0.779 | -4.6 | |
| 2-Nitrophenol | * | 0.198 | 0.218 | -10.1 | * |
| 2,4-Dimethylphenol | | 0.345 | 0.345 | 0.0 | |
| Benzoic Acid | | 0.178 | 0.190 | -6.7 | |
| bis(2-Chloroethoxy)Methane | | 0.484 | 0.502 | -3.7 | |
| 2,4-Dichlorophenol | * | 0.286 | 0.315 | -10.1 | * |
| 1,2,4-Trichlorobenzene | | 0.297 | 0.334 | -12.5 | |
| Naphthalene | | 0.847 | 0.969 | -14.4 | |
| 4-Chloroaniline | | 0.386 | 0.392 | -1.6 | |
| Hexachlorobutadiene | * | 0.151 | 0.173 | -14.6 | * |
| 4-Chloro-3-Methylphenol | * | 0.306 | 0.304 | 0.7 | * |
| 2-Methylnaphthalene | | 0.611 | 0.670 | -9.7 | |
| Hexachlorocyclopentadiene | # | 0.163 | 0.172 | -5.5 | # |
| 2,4,6-Trichlorophenol | * | 0.358 | 0.386 | -7.8 | * |
| 2,4,5-Trichlorophenol | | 0.350 | 0.362 | -3.4 | |
| 2-Chloronaphthalene | | 1.031 | 1.126 | -9.2 | |
| 2-Nitroaniline | | 0.456 | 0.375 | 17.8 | |
| Dimethyl Phthalate | | 1.127 | 1.119 | 0.7 | |
| Acenaphthylene | | 1.574 | 1.709 | -8.6 | |
| 2,6-Dinitrotoluene | | 0.261 | 0.257 | 1.5 | |
| 3-Nitroaniline | | 0.284 | 0.209 | 26.4 | |
| Acenaphthene | * | 1.047 | 1.055 | -0.8 | * |
| 2,4-Dinitrophenol | # | 0.144 | 0.110 | 23.6 | # |
| 4-Nitrophenol | # | 0.115 | 0.075 | 34.8 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Instrument ID: INCOSE Calibration date: 03/31/90 Time: 0645

Lab File ID: 5BT03319001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| | COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| | Phenol | 1.938 | 1.951 | -0.7 | * |
| | bis(2-Chloroethyl)Ether | 1.523 | 1.575 | -3.4 | |
| | 2-Chlorophenol | 1.349 | 1.411 | -4.6 | |
| | 1,3-Dichlorobenzene | 1.419 | 1.527 | -7.6 | |
| | 1,4-Dichlorobenzene | 1.370 | 1.426 | -4.1 | * |
| | Benzyl Alcohol | 0.882 | 0.827 | 6.2 | |
| | 1,2-Dichlorobenzene | 1.309 | 1.381 | -5.5 | |
| | 2-Methylphenol | 1.253 | 1.183 | 5.6 | |
| | bis(2-Chloroisopropyl)Ether | 2.623 | 2.698 | -2.9 | |
| | 4-Methylphenol | 1.270 | 1.170 | 7.9 | |
| # | N-Nitroso-Di-n-Propylamine | 1.134 | 1.091 | 3.8 | # |
| | Hexachloroethane | 0.597 | 0.618 | -3.5 | |
| | Nitrobenzene | 0.391 | 0.445 | -13.8 | |
| | Isophorone | 0.745 | 0.801 | -7.5 | |
| * | 2-Nitrophenol | 0.198 | 0.215 | -8.6 | * |
| | 2,4-Dimethylphenol | 0.345 | 0.357 | -3.5 | |
| | Benzoic Acid | 0.178 | 0.138 | 22.5 | |
| | bis(2-Chloroethoxy)Methane | 0.484 | 0.533 | -10.1 | |
| * | 2,4-Dichlorophenol | 0.286 | 0.315 | -10.1 | * |
| | 1,2,4-Trichlorobenzene | 0.297 | 0.341 | -14.8 | |
| | Naphthalene | 0.847 | 0.935 | -10.4 | |
| | 4-Chloroaniline | 0.386 | 0.398 | -3.1 | |
| * | Hexachlorobutadiene | 0.151 | 0.182 | -20.5 | * |
| * | 4-Chloro-3-Methylphenol | 0.306 | 0.327 | -6.9 | * |
| | 2-Methylnaphthalene | 0.611 | 0.663 | -8.5 | |
| # | Hexachlorocyclopentadiene | 0.163 | 0.167 | -2.5 | # |
| * | 2,4,6-Trichlorophenol | 0.358 | 0.393 | -9.8 | * |
| | 2,4,5-Trichlorophenol | 0.350 | 0.370 | -5.7 | |
| | 2-Chloronaphthalene | 1.031 | 1.105 | -7.2 | |
| | 2-Nitroaniline | 0.456 | 0.427 | 6.4 | |
| | Dimethyl Phthalate | 1.127 | 1.197 | -6.2 | |
| | Acenaphthylene | 1.574 | 1.638 | -4.1 | |
| | 2,6-Dinitrotoluene | 0.261 | 0.285 | -9.2 | |
| | 3-Nitroaniline | 0.284 | 0.265 | 6.7 | |
| * | Acenaphthene | 1.047 | 1.081 | -3.2 | * |
| # | 2,4-Dinitrophenol | 0.144 | 0.123 | 14.6 | # |
| # | 4-Nitrophenol | 0.115 | 0.085 | 26.1 | # |

HALLIBURTON NUS
*Environmental Corporation*

INTERNAL CORRESPONDENCE

C-49-7-0-3

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990 (Revised 10/4/91) DEC 10/4

**FROM:** DEBRA A. SCHEIB

**CC:** FILE

**SUBJECT:** INORGANIC DATA VALIDATION - METALS & CYANIDE
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB4

**SAMPLES:**

Soil: T-SU-

| | | |
|---|---|---|
| SB201A | SB202B | SB204A |
| SB201X | SB202C | SB204X |
| SB201B | SB203A | SB204B |
| SB201C | SB203B | SB204C |
| SB202A | SB203C | |

Soil: T-

RB-MAR06A

Soil: T-GW-

| | | |
|---|---|---|
| SB201A | SB202A | SB202X |

NUS Laboratories analyzed 18 soil samples for Target Analyte List (TAL) Metals and Cyanide. One rinsate blank and three field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- o Data completeness
- o Holding times
- o Calibration verification
- * o Laboratory blank analyses
- o ICP interference check sample results
- * o Matrix spike recoveries
- * o Laboratory duplicates

(continued)

**MATRIX SPIKES**

Matrix spike recoveries for arsenic, antimony, barium, mercury, selenium and silver were below the 75% lower quality control limit. No positive results were reported for antimony, selenium or silver. Non-detects for these three analytes are qualified as estimated, "UJ". Positive results and non-detects for arsenic and mercury are qualified as estimated, "J" and "UJ", respectively. Positive results reported for barium are qualified as estimated, "J".

Matrix spike recoveries for lead and manganese were below 30%. All results reported by the laboratory for these two analytes were positive. These results have been qualified as estimated, "J". All results for all the analytes mentioned are biased, low.

**LABORATORY DUPLICATES**

Results for aluminum exceed the 35% RPD (Relative Percent Difference) laboratory duplicate quality criteria for soils. Hence, all positive results for aluminum are qualified as estimated, "J".

**FIELD DUPLICATES**

Samples SU-SB201A and SU-SB201X constitute a field duplicate pair, as well as samples GW-SB202A and GW-SB202X. Results for barium, calcium, chromium, lead and manganese exceed the 50% RPD quality criteria for soils. No further qualifications were made to barium, lead or manganese results as these analytes were previously qualified based on matrix spike and laboratory duplicate non-compliances. Positive results for calcium and chromium are qualified as estimated, "J".

Please do not hesitate to contact me if you have questions regarding this review.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H19869

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB04

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/08/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 9.8 | U | | P |
| 7440-36-0 | Antimony | 1.00 | U | N | F |
| 7440-38-2 | Arsenic | 0.26 | U | N | F |
| 7440-39-3 | Barium | 3.3 | U | N* | P |
| 7440-41-7 | Beryllium | 0.28 | U | | P |
| 7440-43-9 | Cadmium | 0.55 | U | | P |
| 7440-70-2 | Calcium | 8.1 | U | * | P |
| 7440-47-3 | Chromium | 1.4 | U | | P |
| 7440-48-4 | Cobalt | 1.1 | U | | P |
| 7440-50-8 | Copper | 1.1 | U | | P |
| 7439-89-6 | Iron | 1.5 | U | | P |
| 7439-92-1 | Lead | 0.13 | U | * | F |
| 7439-95-4 | Magnesium | 82.8 | U | | A |
| 7439-96-5 | Manganese | 0.70 | U | N* | P |
| 7439-97-6 | Mercury | 0.05U ~~0.00~~ | U | N | CV |
| 7440-02-0 | Nickel | 1.8 | U | | P |
| 7440-09-7 | Potassium | 15.1 | U | | A |
| 7782-49-2 | Selenium | 0.37 | U | N | F |
| 7440-22-4 | Silver | 1.4 | U | N | P |
| 7440-23-5 | Sodium | 81.9 | U | | A |
| 7440-28-0 | Thallium | 0.24 | U | | F |
| 7440-62-2 | Vanadium | 1.2 | U | | P |
| 7440-66-6 | Zinc | 0.81 | U | * | P |
| | Cyanide | 0.23 | U | | C |

Color Before: CLEAR Clarity Before: Texture: WATER

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-MAR06A

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
H19862S

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB04

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | NR |
| Antimony | 75-125 | 7.2491 | B | 1.2811 | U | 24.0 | 30.2 | N | F |
| Arsenic | 75-125 | 7.0263 | | 3.3137 | | 9.5 | 39.1 | N | F |
| Barium | 75-125 | 724.3354 | | 514.8625 | | 480.1 | 43.6 | N | P |
| Beryllium | 75-125 | 13.0340 | | 1.5469 | | 12.0 | 95.7 | | P |
| Cadmium | 75-125 | 10.5856 | | 0.7010 | U | 12.0 | 88.2 | | P |
| Calcium | | | | | | | | | NR |
| Chromium | 75-125 | 59.5772 | | 19.2883 | | 48.0 | 83.9 | | P |
| Cobalt | 75-125 | 110.1049 | | 2.9972 | B | 120.0 | 89.3 | | P |
| Copper | 75-125 | 63.5138 | | 8.7257 | | 60.0 | 91.3 | | P |
| Iron | | | | | | | | | NR |
| Lead | | 13.1474 | | 21.5270 | | 4.8 | -174.6 | | F |
| Magnesium | | | | | | | | | NR |
| Manganese | 75-125 | 168.6739 | | 358.1390 | | 120.0 | -157.9 | N | P |
| Mercury | 75-125 | 0.4848 | | 0.0596 | B | 0.6 | 70.9 | N | CV |
| Nickel | 75-125 | 117.6181 | | 13.2214 | | 120.0 | 87.0 | | P |
| Potassium | | | | | | | | | NR |
| Selenium | 75-125 | 0.9527 | B | 0.4838 | U | 2.4 | 39.7 | N | F |
| Silver | 75-125 | 8.4553 | | 1.7899 | U | 11.9 | 71.1 | N | P |
| Sodium | | | | | | | | | NR |
| Thallium | 75-125 | 10.8371 | | 0.3144 | U | 11.9 | 91.1 | | F |
| Vanadium | 75-125 | 137.3011 | | 28.0381 | | 120.0 | 91.1 | | P |
| Zinc | 75-125 | 118.6820 | | 27.9128 | | 111.6 | 81.3 | | P |
| Cyanide | 75-125 | 2.4253 | | 0.2742 | U | 3.0 | 80.8 | | C |

Comments:

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-29

**TO:** JAMES WEDEKIND **DATE:** JUNE 30, 1990

**FROM:** JOHN BENTLEY (DAS) **COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG NO. TAFB5

**SAMPLES**

Soils: T-SU-

| | | |
|---|---|---|
| SB205A | SB205C | SB206C |
| SB205B | SB206A | SB206D |

Soil: T-GW-

SB203A

Soil: T-

| | |
|---|---|
| TB-MAR08A | RB-MAR08A |
| TB-MAR09A | RB-MAR09A |

NUS Laboratories analyzed 7 soil samples and 2 rinsate blanks for Target Compound List (TCL) volatile and semivolatile compounds. In addition, 2 trip blank samples were analyzed for TCL volatiles only. No field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibration
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Sample quantitation
- Detection limits

Data which did not meet quality criteria are discussed below.

Estimated maximum concentrations of 15 mg/kg trimethylsilanol, 8.2 mg/kg alkysiloxane isomers and 120 mg/kg alkyltrisiloxane isomers were detected as Tentatively Identified Compounds (TICs) in laboratory, trip and rinsate blanks analyzed with this sample set. One unknown (R.T. 3.30) and 9.5 mg/kg of 1,1,2-trichloro-1,2,2-trifluorethane (Freon 113) were also detected. Sample results reported for these TICs which are at concentrations less than 5X the maximum amounts given above are stricken (crossed-out) on the Form I-VOA TIC reports. Please be aware that trimethylsilanol and aklylsiloxane/ aklyltrisiloxane isomers are chromatographic column bleed artifacts and do not signify the presence of environmental contamination.

**Semivolatile Fraction**

All samples in this data set were determined to be free of semivolatile contamination.

The initial calibration Percent Relative Standard Deviation (%RSD) for 3,3'-dichlorobenzidine exceeded the ± 30% quality control criteria. No qualifications were made as no positive results were reported for this compound.

Some continuing calibration %Ds for several compounds exceeded the ± 25% quality control limit. No qualifications were made as no positive results were reported for these compounds in affected samples.

The Percent Recoveries (%Rs) for 4-nitrophenol and 2,4-dinitro-toluene exceeded the established upper quality control limits for the matrix spike/matrix spike duplicate (MS/MSD) analysis of sample T-SU-SB205A qualifications were made since no positive results were reported for these compounds and detection limits are not affected.

The following TICs were detected in field and laboratory blank analyses in the maximum estimated concentrations indicated:

| TIC | Maximum Concentration (ug/kg) |
|---|---|
| 2,3-dimethylheptane | 530 |
| 2,4-dimethylheptane | 670 |
| 2,6-dimethyl-heptane | 320 |
| 2,3,4-trimethyl-hexane | 780 |
| 2,4-dimethyl-2-petene | 470 |
| (E)-3,4-dimethyl-2-pentene | 170 |
| (E)-2,3-dimethyl-3-hexene | 240 |

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB5

TABLE I - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB205A | $A^{1,2,3,4}$, $J^{2}$ | |
| T-SU-SB205B | $A^{1,2,4}$, $J^{2}$ | |
| T-SU-SB205C | $A^{1,2,3,4}$, $J^{2}$ | |
| T-SU-SB206A | $A^{1,2,3,4}$, $J^{2}$ | |
| T-SU-SB206C | $A^{1,2,3,4}$, $J^{2}$ | |
| T-SU-SB206D | $A^{1,2,3,4}$, $J^{2}$ | |
| T-GW-SB203A | $A^{1,2,4}$, $J^{1,2}$ | |

$A^{1}$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

$A^{2}$ - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

$A^{3}$ - Accept data but change positive result for toluene to a revised detection limit due to blank contamination.

$A^{4}$ - Accept data but change positive result for chloroform to a revised detection limit due to blank contamination.

$J^{1}$ - Estimate "J" positive results and "UJ" nondetects for aromatic compounds because of exceedence of seven day holding time allowance for analysis.

$J^{2}$ - Estimate "UJ" nondetects for 2-butanone because of continuing calibration %D > 50.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK4Q

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: VBLK4Q

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VB403189001

Level: (low/med) LOW Date Received: 03/18/90

% Moisture: not dec. Date Analyzed: 03/18/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 0.5 | J |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR09A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134735

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189010

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. ____ Date Analyzed: 03/18/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 3 | [illegible] |
| 67-64-1 | Acetone | 9 | [illegible] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 0.7 | [illegible] |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBMAR09A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134736

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189011

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/18/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 0.8 | [redacted] |
| 67-64-1 | Acetone | 14 | [redacted] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | [redacted] |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 1 | [redacted] |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR08A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Matrix: (soil/water) SOIL Lab Sample ID: H120290

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04019007

Level: (low/med) LOW Date Received: 03/10/90

% Moisture: not dec. dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/01/90

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: TRBMAR09A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB5

Matrix: (soil/water) SOIL  Lab Sample ID: H120295

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04119013

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH: 5.6  Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK4Q

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: VBLK4Q

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VB403189001

Level: (low/med) LOW Date Received: 03/18/90

% Moisture: not dec. _____ Date Analyzed: 03/18/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | J |
| 67-64-1 | Acetone | 3 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 2 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 0.5 | J |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

ab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Instrument ID: 45B Calibration date: 03/18/90 Time: 740

Lab File ID: VS403189001 Init. Calib. Date(s): 02/25/90 02/25/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.204 | 1.480 | -22.9 | # |
| Bromomethane | | 1.587 | 1.452 | 8.5 | |
| Vinyl Chloride | * | 1.540 | 1.550 | -0.6 | * |
| Chloroethane | | 0.907 | 1.190 | -31.2 | |
| Methylene Chloride | | 1.922 | 1.756 | 8.6 | |
| Acetone | | 1.155 | 0.416 | 64.0 | |
| Carbon Disulfide | | 3.603 | 4.181 | -16.0 | |
| 1,1-Dichloroethene | * | 1.394 | 1.427 | -2.4 | * |
| 1,1-Dichloroethane | # | 3.046 | 3.332 | -9.4 | # |
| 1,2-Dichloroethene (total) | | 1.531 | 1.548 | -1.1 | |
| Chloroform | * | 3.495 | 3.643 | -4.2 | * |
| 1,2-Dichloroethane | | 2.667 | 2.629 | 1.4 | |
| 2-Butanone | | 0.382 | 0.127 | 66.8 | |
| 1,1,1-Trichloroethane | | 0.684 | 0.638 | 6.7 | |
| Carbon Tetrachloride | | 0.581 | 0.538 | 7.4 | |
| Vinyl Acetate | | 1.336 | 0.995 | 25.5 | |
| Bromodichloromethane | | 0.814 | 0.760 | 6.6 | |
| 1,2-Dichloropropane | * | 0.478 | 0.494 | -3.3 | * |
| cis-1,3-Dichloropropene | | 0.732 | 0.704 | 3.8 | |
| Trichloroethene | | 0.428 | 0.403 | 5.8 | |
| Dibromochloromethane | | 0.658 | 0.528 | 19.8 | |
| 1,1,2-Trichloroethane | | 0.453 | 0.378 | 16.6 | |
| Benzene | | 1.128 | 1.133 | -0.4 | |
| trans-1,3-Dichloropropene | | 0.740 | 0.613 | 17.2 | |
| Bromoform | # | 0.434 | 0.270 | 37.8 | # |
| 4-Methyl-2-Pentanone | | 1.267 | 0.725 | 42.8 | |
| 2-Hexanone | | 1.207 | 0.678 | 43.8 | |
| Tetrachloroethene | | 0.426 | 0.404 | 5.2 | |
| 1,1,2,2-Tetrachloroethane | # | 1.133 | 0.683 | 39.7 | # |
| Toluene | * | 1.062 | 1.063 | -0.1 | * |
| Chlorobenzene | # | 1.241 | 1.196 | 3.6 | # |
| Ethylbenzene | * | 0.628 | 0.598 | 4.8 | * |
| Styrene | | 1.328 | 1.168 | 12.0 | |
| Xylene (total) | | 0.847 | 0.689 | 18.6 | |
| Toluene-d8 | | 0.899 | 0.914 | -1.7 | |
| Bromofluorobenzene | | 0.753 | 0.682 | 9.4 | |
| 1,2-Dichloroethane-d4 | | 3.029 | 3.020 | 0.3 | |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Instrument ID: INCOSE Calibration date: 04/01/90 Time: 0813

Lab File ID: 5BT04019001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.938 | 1.917 | 1.1 | * |
| bis(2-Chloroethyl)Ether | | 1.523 | 1.597 | -4.9 | |
| 2-Chlorophenol | | 1.349 | 1.395 | -3.4 | |
| 1,3-Dichlorobenzene | | 1.419 | 1.553 | -9.4 | |
| 1,4-Dichlorobenzene | * | 1.370 | 1.464 | -6.9 | * |
| Benzyl Alcohol | | 0.882 | 0.779 | 11.7 | |
| 1,2-Dichlorobenzene | | 1.309 | 1.395 | -6.6 | |
| 2-Methylphenol | | 1.253 | 1.151 | 8.1 | |
| bis(2-Chloroisopropyl)Ether | | 2.623 | 2.615 | 0.3 | |
| 4-Methylphenol | | 1.270 | 1.102 | 13.2 | |
| N-Nitroso-Di-n-Propylamine | # | 1.134 | 1.003 | 11.6 | # |
| Hexachloroethane | | 0.597 | 0.620 | -3.9 | |
| Nitrobenzene | | 0.391 | 0.446 | -14.1 | |
| Isophorone | | 0.745 | 0.780 | -4.7 | |
| 2-Nitrophenol | * | 0.198 | 0.212 | -7.1 | * |
| 2,4-Dimethylphenol | | 0.345 | 0.350 | -1.4 | |
| Benzoic Acid | | 0.178 | 0.128 | 28.1 | |
| bis(2-Chloroethoxy)Methane | | 0.484 | 0.523 | -8.1 | |
| 2,4-Dichlorophenol | * | 0.286 | 0.302 | -5.6 | * |
| 1,2,4-Trichlorobenzene | | 0.297 | 0.341 | -14.8 | |
| Naphthalene | | 0.847 | 0.955 | -12.8 | |
| 4-Chloroaniline | | 0.386 | 0.346 | 10.4 | |
| Hexachlorobutadiene | * | 0.151 | 0.181 | -19.9 | * |
| 4-Chloro-3-Methylphenol | * | 0.306 | 0.302 | 1.3 | * |
| 2-Methylnaphthalene | | 0.611 | 0.655 | -7.2 | |
| Hexachlorocyclopentadiene | # | 0.163 | 0.151 | 7.4 | # |
| 2,4,6-Trichlorophenol | * | 0.358 | 0.387 | -8.1 | * |
| 2,4,5-Trichlorophenol | | 0.350 | 0.363 | -3.7 | |
| 2-Chloronaphthalene | | 1.031 | 1.131 | -9.7 | |
| 2-Nitroaniline | | 0.456 | 0.401 | 12.1 | |
| Dimethyl Phthalate | | 1.127 | 1.163 | -3.2 | |
| Acenaphthylene | | 1.574 | 1.701 | -8.1 | |
| 2,6-Dinitrotoluene | | 0.261 | 0.272 | -4.2 | |
| 3-Nitroaniline | | 0.284 | 0.213 | 25.0 | |
| Acenaphthene | * | 1.047 | 1.095 | -4.6 | * |
| 2,4-Dinitrophenol | # | 0.144 | 0.095 | 34.0 | # |
| 4-Nitrophenol | # | 0.115 | 0.062 | 46.1 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Instrument ID: INCOSE Calibration date: 04/11/90 Time: 1112

Lab File ID: 5BT04119003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Phenol | 1.938 | 1.999 | -3.1 | * |
| bis(2-Chloroethyl)Ether | 1.523 | 1.603 | -5.3 | |
| 2-Chlorophenol | 1.349 | 1.431 | -6.1 | |
| 1,3-Dichlorobenzene | 1.419 | 1.537 | -8.3 | |
| 1,4-Dichlorobenzene | 1.370 | 1.463 | -6.8 | * |
| Benzyl Alcohol | 0.882 | 0.638 | 27.7 | |
| 1,2-Dichlorobenzene | 1.309 | 1.407 | -7.5 | |
| 2-Methylphenol | 1.253 | 1.216 | 3.0 | |
| bis(2-Chloroisopropyl)Ether | 2.623 | 2.678 | -2.1 | |
| 4-Methylphenol | 1.270 | 1.246 | 1.9 | |
| N-Nitroso-Di-n-Propylamine | 1.134 | 1.139 | -0.4 | # |
| Hexachloroethane | 0.597 | 0.618 | -3.5 | |
| Nitrobenzene | 0.391 | 0.445 | -13.8 | |
| Isophorone | 0.745 | 0.838 | -12.5 | |
| 2-Nitrophenol | 0.198 | 0.221 | -11.6 | * |
| 2,4-Dimethylphenol | 0.345 | 0.360 | -4.3 | |
| Benzoic Acid | 0.178 | 0.138 | 22.5 | |
| bis(2-Chloroethoxy)Methane | 0.484 | 0.523 | -8.1 | |
| 2,4-Dichlorophenol | 0.286 | 0.318 | -11.2 | * |
| 1,2,4-Trichlorobenzene | 0.297 | 0.341 | -14.8 | |
| Naphthalene | 0.847 | 0.947 | -11.8 | |
| 4-Chloroaniline | 0.386 | 0.402 | -4.1 | |
| Hexachlorobutadiene | 0.151 | 0.182 | -20.5 | * |
| 4-Chloro-3-Methylphenol | 0.306 | 0.316 | -3.3 | * |
| 2-Methylnaphthalene | 0.611 | 0.671 | -9.8 | |
| Hexachlorocyclopentadiene | 0.163 | 0.173 | -6.1 | # |
| 2,4,6-Trichlorophenol | 0.358 | 0.396 | -10.6 | * |
| 2,4,5-Trichlorophenol | 0.350 | 0.369 | -5.4 | |
| 2-Chloronaphthalene | 1.031 | 1.115 | -8.1 | |
| 2-Nitroaniline | 0.456 | 0.423 | 7.2 | |
| Dimethyl Phthalate | 1.127 | 1.221 | -8.3 | |
| Acenaphthylene | 1.574 | 1.681 | -6.8 | |
| 2,6-Dinitrotoluene | 0.261 | 0.285 | -9.2 | |
| 3-Nitroaniline | 0.284 | 0.243 | 14.4 | |
| Acenaphthene | 1.047 | 1.086 | -3.7 | * |
| 2,4-Dinitrophenol | 0.144 | 0.106 | 26.4 | # |
| 4-Nitrophenol | 0.115 | 0.058 | 49.6 | # |

B

3D

# SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Matrix Spike - EPA Sample No.: TSUSB205A Level:(low/med) LOW

| COMPOUND | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Phenol | 8430 | 0 | 4300 | 51 | 26- 90 |
| 2-Chlorophenol | 8430 | 0 | 4470 | 53 | 25-102 |
| 1,4-Dichlorobenzene | 4220 | 0 | 2510 | 59 | 28 104 |
| N-Nitroso-di-n-prop.(1) | 4220 | 0 | 4300 | 102 | 41 126 |
| 1,2,4-Trichlorobenzene | 4220 | 0 | 2810 | 67 | 38 107 |
| 4-Chloro-3-methylphenol | 8430 | 0 | 6580 | 78 | 26 103 |
| Acenaphthene | 4220 | 0 | 2860 | 68 | 31-137 |
| 4-Nitrophenol | 8430 | 0 | 12500 | 148 * | 11-114 |
| 2,4-Dinitrotoluene | 4220 | 0 | 5140 | 122 * | 28- 89 |
| Pentachlorophenol | 8430 | 0 | 7670 | 91 | 17-109 |
| Pyrene | 4220 | 0 | 3300 | 78 | 35-142 |

| COMPOUND | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Phenol | 8430 | 4720 | 56 | -9 | 35 | 26- 90 |
| 2-Chlorophenol | 8430 | 5020 | 60 | -12 | 50 | 25-102 |
| 1,4-Dichlorobenzene | 4220 | 2790 | 66 | -11 | 27 | 28 104 |
| N-Nitroso-di-n-prop.(1) | 4220 | 4760 | 113 | -10 | 38 | 41 126 |
| 1,2,4-Trichlorobenzene | 4220 | 3020 | 72 | -7 | 23 | 38 107 |
| 4-Chloro-3-methylphenol | 8430 | 6960 | 83 | -6 | 33 | 26 103 |
| Acenaphthene | 4220 | 2860 | 68 | 0 | 19 | 31-137 |
| 4-Nitrophenol | 8430 | 12500 | 148 * | 0 | 50 | 11-114 |
| 2,4-Dinitrotoluene | 4220 | 5400 | 128 * | -5 | 47 | 28- 89 |
| Pentachlorophenol | 8430 | 7920 | 94 | -3 | 47 | 17-109 |
| Pyrene | 4220 | 3360 | 80 | -3 | 36 | 35-142 |

(1) N-Nitroso-di-n-propylamine

# Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 4 out of 22 outside limits

COMMENTS: CLP,TAFB1,TAFB5,T-SU-SB205A,L,S,H120284,B,EPA,NONE,INCOS E
1.0UL 45C(4MIN)-300C @ 10C/MIN

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK4P

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: VBLK4P

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VB403169001

Level: (low/med) LOW Date Received: 03/16/90

% Moisture: not dec. _____ Date Analyzed: 03/16/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 ✓ | SILANOL, TRIMETHYL- | 14.40 | 5.2 | J |
| 2. | ✓ | ALKYLTRISILOXANE ISOMER | 31.26 | 76 | JX |
| 3. | 76-13-1 | ETHANE, 1,1,2-TRICHLORO-1,2,2 | 12.15 | 9.5 | J |

B

1F

EPA SAMPLE NO.

H120295SBLK

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB5

Matrix: (soil/water) SOIL Lab Sample ID: H1120986

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03199008

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/19/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 4.98 | 250 | J |
| 2. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.22 | 390 | J |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.32 | 240 | J |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 6.82 | 190 | J |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 6.98 | 320 | J |
| 6. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.17 | 820 | J |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.38 | 5700 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.70 | 570 | J |
| 9. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.77 | 230 | J |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 7.90 | 670 | J |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.07 | 500 | J |
| 12. | | BROMINATED UNKNOWN | 23.72 | 120 | J |

- o Detection limits
- o Sample quantitation

* - Quality Control Criteria not met for this parameter.

Problems affecting data usability are addressed below.

**CALIBRATION VERIFICATION**

The Percent Recovery (%R) for the last continuing calibration run for cyanide (120.0%) exceeded the 115% upper quality control limit. No qualifications were made as all the samples in this data set were analyzed prior to this standard.

**BLANKS**

Field rinsate and laboratory method blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (mg/kg) |
|---|---|---|
| Mercury | 0.1 | 0.1 |
| Calcium | 69.0 | 69.0 |
| Sodium | 710 | 710 |

| Analyte | Maximum Concentration (mg/kg) | Action Level* (mg/kg) |
|---|---|---|
| Aluminum | 6.3 | 31.5 |
| Beryllium | 0.92 | 4.60 |
| Iron | 3.1 | 15.5 |
| Manganese | 0.86 | 4.90 |
| Zinc | 0.92 | 4.60 |
| Lead | 0.18 | 0.9 |

* Actual level varies with individual moisture content and weight of sample digested.

No actions were taken for calcium, aluminum, iron, or manganese as all positive sample results for these analytes are above their respective action levels. Positive results within the action level for beryllium, lead, mercury, sodium and zinc are qualified "U", undetected.

**TINKER AIR FORCE BASE**
**CASE # TAFB1, SDG TAFB5**

**TABLE 1 - RECOMMENDATION SUMMARY**

| | | | |
|---|---|---|---|
| Aluminum | | Magnesium | |
| Antimony | $J^1$ | Manganese | |
| Arsenic | | Mercury | $A^1$ |
| Barium | | Nickel | |
| Beryllium | $A^1$ | Potassium | |
| Cadmium | | Selenium | $J^1$ |
| Calcium | | Silver | |
| Chromium | | Sodium | $A^1$ |
| Cobalt | | Thallium | |
| Copper | | Vanadium | |
| Iron | | Zinc | $A^1$ |
| Lead | $A^1$, $J^1$ | Cyanide | $J^1$ |

If the field is left blank, the qualifier is A - Accept all data.

$A^1$ - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

$J^1$ - Estimate "J" positive results and "UJ" nondetects because matrix spike recovery was low.

RB-MAR09A

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H20295

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB05

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 5.3 | [redacted] | | P |
| 7440-36-0 | Antimony | 1.0 | U | [redacted] | F |
| 7440-38-2 | Arsenic | 0.27 | U | [redacted] | F |
| 7440-39-3 | Barium | 3.4 | U | | P |
| 7440-41-7 | Beryllium | 0.84 | [redacted] | | P |
| 7440-43-9 | Cadmium | 0.57 | U | | P |
| 7440-70-2 | Calcium | 1.6 | U | | P |
| 7440-47-3 | Chromium | 1.5 | U | | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 1.2 | U | | P |
| 7439-89-6 | Iron | 2.0 | [redacted] | | P |
| 7439-92-1 | Lead | 0.18 | [redacted] | | F |
| 7439-95-4 | Magnesium | 86.1 | U | | A |
| 7439-96-5 | Manganese | 0.86 | [redacted] | | P |
| 7439-97-6 | Mercury | 0.05U | [redacted] | | CV |
| 7440-02-0 | Nickel | 1.9 | U | | P |
| 7440-09-7 | Potassium | 15.7 | U | | A |
| 7782-49-2 | Selenium | 0.39 | U | [redacted] | F |
| 7440-22-4 | Silver | 1.4 | U | | P |
| 7440-23-5 | Sodium | 85.2 | U | | A |
| 7440-28-0 | Thallium | 0.25 | U | | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 0.92 | [redacted] | | P |
| | Cyanide | 0.22 | U | [redacted] | C |
| | | | | | |

Color Before: COLORLESS Clarity Before: CLEAR Texture: WATER

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-MAR09A

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): ~~MG/KG~~ error ug/L. See Case Narrative

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | 20.9 | U | | | 20.900 | U | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | 5.3 | U | 5.300 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.400 | U | F |
| Barium | 17.3 | U | 17.3 | U | 17.3 | U | | | 17.300 | U | P |
| Beryllium | 4.3 | B | 4.1 | B | 4.1 | B | | | 4.400 | B | P |
| Cadmium | 2.9 | U | 2.9 | U | 2.9 | U | | | -2.900 | B | P |
| Calcium | 69.0 | B | 49.0 | B | 65.0 | B | | | -62.000 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | 7.6 | U | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | 6.0 | U | | | 6.000 | U | P |
| Copper | 6.1 | U | 6.1 | U | 6.1 | U | | | 6.100 | U | P |
| Iron | -5.0 | B | -9.0 | B | 4.4 | U | | | 8.000 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.700 | U | F |
| Magnesium | 439.8 | U | 439.8 | U | 439.8 | U | | | 439.800 | U | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | 4.3 | B | 4.600 | B | P |
| Mercury | 0.1 | U | 0.1 | U | 0.1 | B | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | | | 9.800 | U | P |
| Potassium | 80.3 | U | 80.3 | U | 80.3 | U | | | 80.300 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.000 | U | F |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | | | 7.400 | U | P |
| Sodium | 435.1 | U | 435.1 | U | 435.1 | U | | | 20.000 | B | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.300 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | 6.5 | U | | | 6.500 | U | P |
| Zinc | 2.3 | U | 2.3 | U | 2.3 | U | | | 4.100 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | 9.1 | U | | | 9.100 | U | C |

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-48

TO: JAMES WEDEKIND

DATE: JUNE 30, 1990

FROM: TOM SNARE

COPIES: D.A. SCHEIB

SUBJECT: ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB6

SAMPLES:

Water: T-GW-

MW155A MW156A

Water: T-

TB-MAR11A FB-MAR11A RB-MAR11A

NUS Laboratories analyzed 2 water samples, 1 field blank and 1 rinsate blank for Target Compound List (TCL) volatile and semivolatile compounds. In addition, 1 trip blank sample was analyzed for TCL volatile compounds only. No field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Sample quantitation
- Detection limits

Data which did not meet quality criteria are discussed below.

Volatile Fraction

The groundwater samples contained total-1,2-dichloroethene, trichloroethene and tetrachloroethene. Carbon disulfide was also

Semivolatile Fraction

All samples were determined to be free of semivolatile contamination.

The initial calibration Percent Relative Standard Deviation (%RSD) for 3,3'-dichlorobenzidine exceeded the ± 30% quality control criteria. No qualifications were made since no positive results were reported for this compound.

Continuing calibration %Ds for benzoic acid, 2,4-ninitrophenol and 4-nitroaniline exceeded the ± 25% quality control limit. No qualifications were made, however, as no positive results were reported for these compounds in affected samples.

Percent recoveries (%R) for 4-nitrophenol exceeded the established upper quality control limit for the MS/MSD analysis of sample T-GW-MW155A No qualifications were made, however, as no possible results were reported for this compound.

No qualifications were made for TICs as no TICs were detected in trip, field, rinsate and laboratory method blanks analyzed with this sample set.

Please do not hesitate to contact me if you have any questions regarding this review.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAR11A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-6

Matrix: (soil/water) SOIL Lab Sample ID: P134881

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: V1A03199002

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. _____ Date Analyzed: 03/19/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 7 | [illegible] |
| 67-64-1 | Acetone | 6 | [illegible] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 18 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1.1.2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBMAR11A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-6

Matrix: (soil/water) SOIL Lab Sample ID: P134882

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: VIA03199003

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. _____ Date Analyzed: 03/19/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | [illegible] |
| 67-64-1 | Acetone | 4 | [illegible] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR11A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB6

Matrix: (soil/water) WATER Lab Sample ID: H120326

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBP04039007

Level: (low/med) LOW Date Received: 03/13/90

%-Moisture: not dec. dec. Date Extracted: 03/20/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 10 | U |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAB11A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB6

Matrix: (soil/water) WATER  Lab Sample ID: H120327

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: SBF04039008

Level: (low/med) LOW  Date Received: 03/13/90

% Moisture: not dec. dec.  Date Extracted: 03/20/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N  pH: 6.2  Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 10 | U |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

3B

# SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-6

Matrix Spike - EPA Sample No.: TGWMW155A Level:(low/med) LOW

| COMPOUND | SPIKE ADDED ( ug/L ) | SAMPLE CONCENTRATION ( ug/L ) | MS CONCENTRATION ( ug/L ) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 125 | 0 | 138 | 110 | 59-172 |
| Trichloroethene | 125 | 312 | 402 | 72 | 62-137 |
| Benzene | 125 | 0 | 118 | 94 | 66-142 |
| Toluene | 125 | 0 | 118 | 94 | 59-139 |
| Chlorobenzene | 125 | 0 | 118 | 94 | 60-133 |

| COMPOUND | SPIKE ADDED ( ug/L ) | MSD CONCENTRATION ( ug/L ) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 125 | 131 | 105 | 5 | 22 | 59-172 |
| Trichloroethene | 125 | 345 | 26 * | 94 * | 24 | 62-137 |
| Benzene | 125 | 118 | 94 | 0 | 21 | 66-142 |
| Toluene | 125 | 116 | 93 | 1 | 21 | 59-139 |
| Chlorobenzene | 125 | 117 | 94 | 0 | 21 | 60-133 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

COMMENTS: CLP,TAFB1,TAFB-6,T-GW-MW155ADL,L,S,P134876DL,V,EPA,2ML/5ML
45DG (3MIN) TO 220DG @ 8DG/MIN INSTRUMENT 50A

7B

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB6

Instrument ID: INCOSE Calibration date: 04/03/90 Time: 0040

Lab File ID: 5BT04039001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| | COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| | Phenol | 1.938 | 1.986 | -2.5 | * |
| | bis(2-Chloroethyl)Ether | 1.523 | 1.606 | -5.5 | |
| | 2-Chlorophenol | 1.349 | 1.388 | -2.9 | |
| | 1,3-Dichlorobenzene | 1.419 | 1.536 | -8.2 | |
| | 1,4-Dichlorobenzene | 1.370 | 1.451 | -5.9 | * |
| | Benzyl Alcohol | 0.882 | 0.828 | 6.1 | |
| | 1,2-Dichlorobenzene | 1.309 | 1.384 | -5.7 | |
| | 2-Methylphenol | 1.253 | 1.226 | 2.2 | |
| | bis(2-Chloroisopropyl)Ether | 2.623 | 2.706 | -3.2 | |
| | 4-Methylphenol | 1.270 | 1.216 | 4.3 | |
| | N-Nitroso-Di-n-Propylamine | 1.134 | 1.137 | -0.3 | # |
| | Hexachloroethane | 0.597 | 0.606 | -1.5 | |
| | Nitrobenzene | 0.391 | 0.437 | -11.8 | |
| | Isophorone | 0.745 | 0.848 | -13.8 | |
| | 2-Nitrophenol | 0.198 | 0.215 | -8.6 | * |
| | 2,4-Dimethylphenol | 0.345 | 0.355 | -2.9 | |
| | Benzoic Acid | 0.178 | 0.115 | 35.4 | |
| | bis(2-Chloroethoxy)Methane | 0.484 | 0.531 | -9.7 | |
| | 2,4-Dichlorophenol | 0.286 | 0.309 | -8.0 | * |
| | 1,2,4-Trichlorobenzene | 0.297 | 0.334 | -12.5 | |
| | Naphthalene | 0.847 | 0.963 | -13.7 | |
| | 4-Chloroaniline | 0.386 | 0.409 | -6.0 | |
| | Hexachlorobutadiene | 0.151 | 0.170 | -12.6 | * |
| | 4-Chloro-3-Methylphenol | 0.306 | 0.323 | -5.6 | * |
| | 2-Methylnaphthalene | 0.611 | 0.665 | -8.8 | |
| | Hexachlorocyclopentadiene | 0.163 | 0.152 | 6.7 | # |
| | 2,4,6-Trichlorophenol | 0.358 | 0.394 | -10.1 | * |
| | 2,4,5-Trichlorophenol | 0.350 | 0.383 | -9.4 | |
| | 2-Chloronaphthalene | 1.031 | 1.118 | -8.4 | |
| | 2-Nitroaniline | 0.456 | 0.482 | -5.7 | |
| | Dimethyl Phthalate | 1.127 | 1.274 | -13.0 | |
| | Acenaphthylene | 1.574 | 1.737 | -10.4 | |
| | 2,6-Dinitrotoluene | 0.261 | 0.302 | -15.7 | |
| | 3-Nitroaniline | 0.284 | 0.286 | -0.7 | |
| | Acenaphthene | 1.047 | 1.120 | -7.0 | * |
| | 2,4-Dinitrophenol | 0.144 | 0.101 | 29.9 | # |
| | 4-Nitrophenol | 0.115 | 0.092 | 20.0 | # |

B

# WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB6

Matrix Spike - EPA Sample No.: TGWMWI55A

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Phenol | 200 | 0 | 94.0 | 47 | 12- 86 |
| 2-Chlorophenol | 200 | 0 | 105 | 53 | 27-123 |
| 1,4-Dichlorobenzene | 100 | 0 | 48.2 | 48 | 36 97 |
| N-Nitroso-di-n-prop.(1) | 100 | 0 | 77.2 | 77 | 41 116 |
| 1,2,4-Trichlorobenzene | 100 | 0 | 54.0 | 54 | 39 98 |
| 4-Chloro-3-methylphenol | 200 | 0 | 121 | 61 | 23 97 |
| Acenaphthene | 100 | 0 | 55.6 | 56 | 46-118 |
| 4-Nitrophenol | 200 | 0 | 165 | 83 * | 10- 80 |
| 2,4-Dinitrotoluene | 100 | 0 | 80.5 | 81 | 24- 96 |
| Pentachlorophenol | 200 | 0 | 143 | 72 | 9-103 |
| Pyrene | 100 | 0 | 52.9 | 53 | 26-127 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Phenol | 200 | 93.3 | 47 | 0 | 42 | 12- 86 |
| 2-Chlorophenol | 200 | 109 | 55 | -4 | 40 | 27-123 |
| 1,4-Dichlorobenzene | 100 | 46.7 | 47 | 2 | 28 | 36 97 |
| N-Nitroso-di-n-prop.(1) | 100 | 72.3 | 72 | 7 | 38 | 41 116 |
| 1,2,4-Trichlorobenzene | 100 | 53.1 | 53 | 2 | 28 | 39 98 |
| 4-Chloro-3-methylphenol | 200 | 134 | 67 | -9 | 42 | 23 97 |
| Acenaphthene | 100 | 60.8 | 61 | -9 | 31 | 46-118 |
| 4-Nitrophenol | 200 | 200 | 100 * | -19 | 50 | 10- 80 |
| 2,4-Dinitrotoluene | 100 | 91.4 | 91 | -12 | 38 | 24- 96 |
| Pentachlorophenol | 200 | 173 | 87 | -19 | 50 | 9-103 |
| Pyrene | 100 | 57.8 | 58 | -9 | 31 | 26-127 |

(1) N-Nitroso-di-n-propylamine

# Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS: CLP,TAFB,TAFB6,T-GW-MWI55A,L,W,H120322,B,EPA,,INCOS E
1.0UL @45C(4MIN)-300C @ 10C/MIN

**BLANKS**

Field and laboratory blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (ug/l) |
|---|---|---|
| Aluminum | 39.0 | 195 |
| Beryllium | 3.8 | 19 |
| Cadmium | 4.1 | 20.5 |
| Calcium | 1910 | 9550 |
| Cobalt | 12.8 | 64 |
| Iron | 41 | 205 |
| Sodium | 720 | 3600 |
| Lead | 1.5 | 7.5 |
| Magnesium | 1110 | 5550 |
| Potassium | 100 | 500 |
| Zinc | 37.2 | 166 |
| Copper | 6.3 | 31.5 |

No actions were taken for calcium, magnesium, potassium, or sodium as all positive sample results for these analytes are above their respective action levels. Positive results within the action level for all other analytes mentioned are qualified "U", undetected.

**LABORATORY DUPLICATES**

Results for cadmium and lead exceeded the 35% RPD (Relative Percent Difference) laboratory duplicate quality control criteria for waters. No further actions were taken as all positive sample results for cadmium and lead were previously qualified as undetected, "U", due to blank contamination.

Please do not hesitate to contact me if you have questions regarding this review.

3
BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBC

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | | | | | 20.9 | U | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | | | 5.3 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | | | 1.4 | U | F |
| Barium | 17.3 | U | 17.3 | U | | | | | 17.3 | U | P |
| Beryllium | 1.5 | B | 1.5 | B | | | | | 1.5 | U | P |
| Cadmium | 2.9 | U | 4.1 | B | 2.9 | U | | | 3.4 | B | P |
| Calcium | 63.0 | B | 77.0 | B | | | | | 98.0 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | | | 7.6 | U | P |
| Cobalt | 7.5 | B | 10.6 | B | 9.8 | B | | | 11.3 | B | P |
| Copper | 6.1 | U | 6.1 | U | | | | | 6.1 | U | P |
| Iron | -8.0 | B | -17.0 | B | | | | | 19.0 | B | P |
| Lead | 0.7 | U | 0.9 | B | 0.7 | B | | | 0.8 | B | F |
| Magnesium | 510.0 | B | 910.0 | B | | | | | 678.0 | B | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | | | 3.7 | U | P |
| Mercury | 0.1 | U | 0.1 | U | | | | | 0.1 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | | | 9.8 | U | P |
| Potassium | 80.3 | U | 80.3 | U | | | | | 80.3 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | F |
| Silver | 7.4 | U | 7.4 | U | | | | | 7.4 | U | P |
| Sodium | 435.1 | U | 435.1 | U | | | | | 570.0 | B | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | | | 1.3 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | | | | | 6.5 | U | P |
| Zinc | 5.0 | B | 4.3 | B | 4.9 | B | | | 8.8 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | | | | | 9.1 | U | C |

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20327

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB06

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/13/90

% Solids: 0.0 FB-MAR11A

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 20.9 | U | | P |
| 7440-36-0 | Antimony | 5.3 | U | | F |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 17.3 | U | | P |
| 7440-41-7 | Beryllium | 2.9 | [redacted] | | P |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | 847 | [redacted] | | P |
| 7440-47-3 | Chromium | 7.6 | U | | P |
| 7440-48-4 | Cobalt | 8.1 | [redacted] | | P |
| 7440-50-8 | Copper | 6.3 | [redacted] | | P |
| 7439-89-6 | Iron | 11.0 | [redacted] | | P |
| 7439-92-1 | Lead | 1.5 | [redacted] | | F |
| 7439-95-4 | Magnesium | 1110 | [redacted] | | A |
| 7439-96-5 | Manganese | 3.7 | U | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 9.8 | U | | P |
| 7440-09-7 | Potassium | 80.3 | U | | A |
| 7782-49-2 | Selenium | 2.0 | U | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | 720 | [redacted] | | A |
| 7440-28-0 | Thallium | 1.3 | U | | F |
| 7440-62-2 | Vanadium | 6.5 | U | | P |
| 7440-66-6 | Zinc | 16.4 | [redacted] | | P |
| | Cyanide | 228 | U | | C |
| | | | | | |

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT NO. T-FB-Mar11A

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-28

**TO:** JAMES WEDEKIND **DATE:** JUNE 30, 1990

**FROM:** S. C. CARUSO (DAS) **COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB7

**SAMPLES:**

Soil: T-SU-

| | | | |
|---|---|---|---|
| SB207A | SB2085 | SB209B | SB210C |
| SB207B | SB208A | SB209C | |
| SB207C | SB208C | SB210A | |
| SB207X | SB209A | SB210B | |

Soil: T-GW-

| | | |
|---|---|---|
| SB207A | SB209A | SB210A |

Soil: T-

| | |
|---|---|
| TBMAR13A | RBMAR12A |
| FBMAR12A | RBMAR14A |

NUS Laboratories analyzed 16 soil samples, 1 field blank and 2 rinsate blanks for Target Compound List (TCL) volatile and semivolatile compounds. In addition, 1 trip blank sample was analyzed for TCL volatile compounds only. One field duplicate pair was included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results

(continued)

compounds exceeded the ±25% quality control limit. No further action was taken for acetone as all sample results for this compound were previously qualified "U", as undetected, due to blank contamination. No other qualifications were made as no positive results were reported for the affected compounds in affected samples.

Samples T-SU-SB207C and T-SU-SB207X constitute a field duplicate pair. All results met field duplicate precision quality control criteria as no positive results (after qualification for blank contamination) were reported for either sample.

The positive result for 2-butanone in sample T-SU-GW-SB210A is qualified "J", as estimated, as it is below the CRQL.

Trimethyl silanol, alkylsiloxane isomers and alkyltrisiloxane isomers (all laboratory column bleed artifacts; not environmental contaminants) were detected as Tentatively Identified Compounds (TICs) in trip, field and rinsate blanks analyzed with this sample set. Sample results for these TICs at concentrations less than 5X the maximum amount of TIC detected in the blanks are stricken (crossed-out) on the VOA-TIC Form I reports.

Semivolatile Fraction

Concentrations below the CRQL were reported for benzoic acid (in sample T-SU-SB207A) and di-n-butyl phthalate (in several samples). Results above the CRQL were reported for bis(2-ethylhexyl)phthalate in sample T-SU-SB207C and in the other half of the field duplicate pair, sample T-SU-SB207X.

The initial calibration Percent Relative Standard Deviation (%RSD) for 3,3'-dichlorobenzidine exceeded the ± 30% quality control criteria. No qualifications were made since no positive results were reported for this compound.

The continuing calibration %D for 4-nitroanline exceeded 50%. Non-detects for 4-nitroaniline in affected samples are qualified as estimated, "UJ".

Some continuing calibration %Ds for several compounds exceeded the ± 25% quality control limit. No qualifications were made, however, as no positive results were reported for these compounds in affected samples.

The Percent Recoveries (%Rs) for 2,4- dinitrotoluene and 4-nitrophenol exceeded the established upper quality control limits

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB7

TABLE I - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB207A | A[1,2] | J[1] |
| T-SU-SB207B | A[1,2] | J[1] |
| T-SU-SB207C | A[1,2] | |
| T-SU-SB207X | A[1,2] | J[1] |
| T-SU-SB208A5 | A[1,2] | J[1] |
| T-SU-SB208A10 | A[1,2] | |
| T-SU-SB208C | A[1,2] | J[1,2] |
| T-SU-SB209A | A[1,2] | J[1,2] |
| T-SU-SB209B | A[1,2] | J[1,2] |
| T-SU-SB209C | A[1,2] | J[2] |
| T-SU-SB210A | A[1,2] | J[1,2] |
| T-SU-SB210B | A[1,2] | J[1,2] |
| T-SU-SB210C | A[1,2] | J[1,2] |
| T-GW-SB207A | A[1,2,3] | |
| T-GW-SB209A | A[1,2,4] | |
| T-GW-SB210A | A[1,2,3,4], J[1] | |

A[1] - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

A[2] - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

A[3] - Accept data but change positive result for tetrachloroethene to a revised detection limit due to blank contamination.

BLANK

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKAV

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: VBLKAV

Sample wt/vol: 5.0 (g/mL) G Lab File ID: KIA03199006

Level: (low/med) LOW Date Received: 03/19/90

% Moisture: not dec. Date Analyzed: 03/19/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 6 | |
| 67-64-1 | Acetone | 2 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAR12A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135082

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1A03209004

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. Date Analyzed: 03/20/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 4 | [redacted] |
| 67-64-1 | Acetone | 3 | [redacted] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 9 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR14A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135087

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03209010

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. ____ Date Analyzed: 03/20/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | [redacted] |
| 67-64-1 | Acetone | 2 | [redacted] |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 17 | [redacted] |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02- | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 4 | [redacted] |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAR12A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120468

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04039009

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR12A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120470

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP04039011

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR14A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB7

Matrix: (soil/water) SOIL  Lab Sample ID: H120473

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04039014

Level: (low/med) LOW  Date Received: 03/15/90

% Moisture: not dec. dec.  Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N  pH: 7.1  Dilution Factor: 1.000

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG  Q

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKAV

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: VBLKAV

Sample wt/vol: 5.0 (g/mL) G Lab File ID: KIA03199006

Level: (low/med) LOW Date Received: 03/19/90

% Moisture: not dec. _____ Date Analyzed: 03/19/90

Column: (pack/cap) PACK Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 6 | |
| 67-64-1 | Acetone | 2 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Instrument ID: INCOSE Calibration Date(s): 03/28/90 03/29/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF20 = 5BT03289004 RRF50 = 5BT03289003
RRF80 = 5BT03289005 RRF120= 5BT03289006 RRF160= 5BT03299003

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Dibenzofuran | 1.520 | 1.556 | 1.463 | 1.357 | 1.095 | 1.398 | 13.3 |
| 2,4-Dinitrotoluene | 0.276 | 0.320 | 0.316 | 0.318 | 0.325 | 0.311 | 6.4 |
| Diethylphthalate | 1.023 | 1.147 | 1.135 | 1.123 | 0.983 | 1.082 | 6.9 |
| 4-Chlorophenyl-phenylether | 0.526 | 0.572 | 0.532 | 0.523 | 0.429 | 0.516 | 10.2 |
| Fluorene | 1.243 | 1.273 | 1.162 | 1.085 | 0.825 | 1.118 | 16.0 |
| 4-Nitroaniline | | 0.207 | 0.198 | 0.259 | 0.254 | 0.230 | 13.7 |
| 4,6-Dinitro-2-Methylphenol | | 0.117 | 0.110 | 0.122 | 0.131 | 0.120 | 7.4 |
| N-Nitrosodiphenylamine (1) * | 0.483 | 0.484 | 0.468 | 0.469 | 0.410 | 0.463 | 6.6 |
| 4-Bromophenyl-phenylether | 0.198 | 0.231 | 0.225 | 0.233 | 0.213 | 0.220 | 6.6 |
| Hexachlorobenzene | 0.219 | 0.240 | 0.235 | 0.242 | 0.217 | 0.231 | 5.1 |
| Pentachlorophenol * | | 0.140 | 0.132 | 0.145 | 0.142 | 0.140 | 4.0 |
| Phenanthrene | 1.082 | 1.086 | 1.027 | 0.964 | 0.741 | 0.980 | 14.5 |
| Anthracene | 1.093 | 1.090 | 1.037 | 0.962 | 0.743 | 0.985 | 14.8 |
| Di-n-Butylphthalate | 1.074 | 1.148 | 1.124 | 1.075 | 0.827 | 1.050 | 12.2 |
| Fluoranthene * | 0.984 | 0.968 | 0.849 | 0.946 | 0.770 | 0.903 | 10.1 |
| Pyrene | 1.644 | 1.909 | 2.166 | 1.708 | 1.166 | 1.719 | 21.5 |
| Butylbenzylphthalate | 0.563 | 0.678 | 0.720 | 0.736 | 0.625 | 0.664 | 10.7 |
| 3,3'-Dichlorobenzidine | 0.246 | 0.222 | 0.212 | 0.363 | 0.432 | 0.295 | 33.0 |
| Benzo(a)Anthracene | 1.143 | 1.284 | 1.280 | 1.289 | 1.069 | 1.213 | 8.3 |
| Chrysene | 1.002 | 1.149 | 1.152 | 1.187 | 0.876 | 1.073 | 12.2 |
| bis(2-Ethylhexyl)Phthalate | 0.704 | 0.858 | 0.876 | 0.935 | 0.790 | 0.833 | 10.6 |
| Di-n-Octyl Phthalate * | 1.168 | 1.439 | 1.337 | 1.491 | 1.304 | 1.348 | 9.3 |
| Benzo(b)Fluoranthene | 1.186 | 1.335 | 1.403 | 1.436 | 1.212 | 1.314 | 8.5 |
| Benzo(k)Fluoranthene | 1.145 | 1.234 | 1.325 | 1.333 | 1.096 | 1.227 | 8.6 |
| Benzo(a)Pyrene * | 1.054 | 1.221 | 1.235 | 1.338 | 1.153 | 1.200 | 8.8 |
| Indeno(1,2,3-cd)Pyrene | 1.030 | 1.113 | 1.087 | 1.185 | 1.151 | 1.113 | 5.4 |
| Dibenz(a,h)Anthracene | 0.792 | 0.939 | 0.940 | 1.008 | 0.912 | 0.918 | 8.6 |
| Benzo(g,h,i)Perylene | 0.854 | 0.950 | 1.003 | 0.952 | 0.848 | 0.921 | 7.4 |
| Nitrobenzene-d5 | 0.431 | 0.449 | 0.423 | 0.430 | 0.408 | 0.428 | 3.5 |
| 2-Fluorobiphenyl | 1.240 | 1.195 | 1.168 | 1.093 | 0.873 | 1.114 | 13.0 |
| Terphenyl-d14 | 0.945 | 1.144 | 1.301 | 1.110 | 0.844 | 1.069 | 16.7 |
| Phenol-d5 | 1.693 | 1.767 | 1.724 | 1.730 | 1.515 | 1.686 | 5.9 |
| 2-Fluorophenyl | 1.293 | 1.474 | 1.418 | 1.416 | 1.305 | 1.381 | 5.7 |
| 2,4,6-Tribromophenol | 0.111 | 0.154 | 0.151 | 0.162 | 0.159 | 0.147 | 14.1 |

(1) Cannot be separated from Diphenylamine

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Instrument ID: INCOSE Calibration date: 04/03/90 Time: 0040

Lab File ID: 5BT04039001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.579 | -13.0 | |
| 2,4-Dinitrotoluene | 0.311 | 0.351 | -12.9 | |
| Diethylphthalate | 1.082 | 1.217 | -12.5 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.601 | -16.5 | |
| Fluorene | 1.118 | 1.225 | -9.6 | |
| 4-Nitroaniline | 0.230 | 0.172 | 25.2 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.112 | 6.7 | |
| N-Nitrosodiphenylamine (1) | 0.463 | 0.520 | -12.3 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.246 | -11.8 | |
| Hexachlorobenzene | 0.231 | 0.254 | -10.0 | |
| Pentachlorophenol | 0.140 | 0.151 | -7.9 | * |
| Phenanthrene | 0.980 | 1.065 | -8.7 | |
| Anthracene | 0.985 | 1.062 | -7.8 | |
| Di-n-Butylphthalate | 1.050 | 1.239 | -18.0 | |
| Fluoranthene | 0.903 | 1.103 | -22.2 | * |
| Pyrene | 1.719 | 1.687 | 1.9 | |
| Butylbenzylphthalate | 0.664 | 0.637 | 4.1 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.253 | 14.2 | |
| Benzo(a)Anthracene | 1.213 | 1.268 | -4.5 | |
| Chrysene | 1.073 | 1.129 | -5.2 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.823 | 1.2 | |
| Di-n-Octyl Phthalate | 1.348 | 1.197 | 11.2 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.325 | -0.8 | |
| Benzo(k)Fluoranthene | 1.227 | 1.135 | 7.5 | |
| Benzo(a)Pyrene | 1.200 | 1.198 | 0.2 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.129 | -1.4 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.921 | -0.3 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.940 | -2.1 | |
| Nitrobenzene-d5 | 0.428 | 0.467 | -9.1 | |
| 2-Fluorobiphenyl | 1.114 | 1.251 | -12.3 | |
| Terphenyl-d14 | 1.069 | 1.119 | -4.7 | |
| Phenol-d5 | 1.686 | 1.687 | -0.1 | |
| 2-Fluorophenyl | 1.381 | 1.431 | -3.6 | |
| 2,4,6-Tribromophenol | 0.147 | 0.167 | -13.6 | |

FB MAR12A
GWSB201A

(1) Cannot be separated from Diphenylamine

/B

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Instrument ID: INCOSE Calibration date: 04/05/90 Time: 0604

Lab File ID: 5BT04059001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

Associated Samples:
TSUSB209A5
TSUSB209B10
TSUSB210A5
TSUSB210B10
TSUSB210C20
TSUSB208C20
TSUSB209C20

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Phenol | 1.938 | 1.977 | -2.0 | * |
| bis(2-Chloroethyl)Ether | 1.523 | 1.581 | -3.8 | |
| 2-Chlorophenol | 1.349 | 1.418 | -5.1 | |
| 1,3-Dichlorobenzene | 1.419 | 1.522 | -7.3 | |
| 1,4-Dichlorobenzene | 1.370 | 1.438 | -5.0 | * |
| Benzyl Alcohol | 0.882 | 0.794 | 10.0 | |
| 1,2-Dichlorobenzene | 1.309 | 1.392 | -6.3 | |
| 2-Methylphenol | 1.253 | 1.217 | 2.9 | |
| bis(2-Chloroisopropyl)Ether | 2.623 | 2.613 | 0.4 | |
| 4-Methylphenol | 1.270 | 1.238 | 2.5 | |
| N-Nitroso-Di-n-Propylamine | 1.134 | 0.985 | 13.1 | # |
| Hexachloroethane | 0.597 | 0.629 | -5.4 | |
| Nitrobenzene | 0.391 | 0.451 | -15.4 | |
| Isophorone | 0.745 | 0.735 | 1.3 | |
| 2-Nitrophenol | 0.198 | 0.230 | -16.2 | * |
| 2,4-Dimethylphenol | 0.345 | 0.360 | -4.3 | |
| Benzoic Acid | 0.178 | 0.178 | 0.0 | |
| bis(2-Chloroethoxy)Methane | 0.484 | 0.516 | -6.6 | |
| 2,4-Dichlorophenol | 0.286 | 0.324 | -13.3 | * |
| 1,2,4-Trichlorobenzene | 0.297 | 0.345 | -16.2 | |
| Naphthalene | 0.847 | 0.937 | -10.6 | |
| 4-Chloroaniline | 0.386 | 0.363 | 6.0 | |
| Hexachlorobutadiene | 0.151 | 0.181 | -19.9 | * |
| 4-Chloro-3-Methylphenol | 0.306 | 0.307 | -0.3 | * |
| 2-Methylnaphthalene | 0.611 | 0.634 | -3.8 | |
| Hexachlorocyclopentadiene | 0.163 | 0.159 | 2.5 | # |
| 2,4,6-Trichlorophenol | 0.358 | 0.417 | -16.5 | * |
| 2,4,5-Trichlorophenol | 0.350 | 0.380 | -8.6 | |
| 2-Chloronaphthalene | 1.031 | 1.166 | -13.1 | |
| 2-Nitroaniline | 0.456 | 0.382 | 16.2 | |
| Dimethyl Phthalate | 1.127 | 1.016 | 9.8 | |
| Acenaphthylene | 1.574 | 1.644 | -4.4 | |
| 2,6-Dinitrotoluene | 0.261 | 0.260 | 0.4 | |
| 3-Nitroaniline | 0.284 | 0.197 | 30.6 | |
| Acenaphthene | 1.047 | 1.092 | -4.3 | * |
| 2,4-Dinitrophenol | 0.144 | 0.094 | 34.7 | # |
| 4-Nitrophenol | 0.115 | 0.066 | 42.6 | # |

B

3D

# SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix Spike - EPA Sample No.: TSUSB207A Level: (low/med) LOW

| COMPOUND | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Phenol | 8020 | 0 | 4650 | 58 | 26- 90 |
| 2-Chlorophenol | 8020 | 0 | 5060 | 63 | 25-102 |
| 1,4-Dichlorobenzene | 4010 | 0 | 2800 | 70 | 28 104 |
| N-Nitroso-di-n-prop.(1) | 4010 | 0 | 4530 | 113 | 41 126 |
| 1,2,4-Trichlorobenzene | 4010 | 0 | 3180 | 79 | 38 107 |
| 4-Chloro-3-methylphenol | 8020 | 0 | 6700 | 84 | 26 103 |
| Acenaphthene | 4010 | 0 | 2950 | 74 | 31-137 |
| 4-Nitrophenol | 8020 | 0 | 7900 | 99 | 11-114 |
| 2,4-Dinitrotoluene | 4010 | 0 | 4290 | 107 * | 28- 89 |
| Pentachlorophenol | 8020 | 0 | 7460 | 93 | 17-109 |
| Pyrene | 4010 | 0 | 3960 | 99 | 35-142 |

| COMPOUND | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Phenol | 8020 | 4930 | 61 | -5 | 35 | 26- 90 |
| 2-Chlorophenol | 8020 | 5220 | 65 | -3 | 50 | 25-102 |
| 1,4-Dichlorobenzene | 4010 | 2860 | 71 | -1 | 27 | 28 104 |
| N-Nitroso-di-n-prop.(1) | 4010 | 4810 | 120 | -6 | 38 | 41 126 |
| 1,2,4-Trichlorobenzene | 4010 | 3150 | 79 | 0 | 23 | 38 107 |
| 4-Chloro-3-methylphenol | 8020 | 6780 | 85 | -1 | 33 | 26 103 |
| Acenaphthene | 4010 | 2890 | 72 | 3 | 19 | 31-137 |
| 4-Nitrophenol | 8020 | 9390 | 117 * | -17 | 50 | 11-114 |
| 2,4-Dinitrotoluene | 4010 | 4810 | 120 * | -11 | 47 | 28- 89 |
| Pentachlorophenol | 8020 | 7300 | 91 | 2 | 47 | 17-109 |
| Pyrene | 4010 | 2850 | 71 | 33 | 36 | 35-142 |

(1) N-Nitroso-di-n-propylamine

# Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 3 out of 22 outside limits

COMMENTS: CLP,TAFB1,TAFB-7,T-SU-SB207A,L,S,H120453,B,EPA,,INCOS E
1.0UL 45C(4MIN)-300C @10C/MIN

- o Field duplicates
- o Laboratory control sample results
- o Furnace atomic absorption results
- o Serial dilution analysis
- o Detection limits
- o Sample quantitation

* - Quality Control Criteria not met for this parameter.

Problems affecting data usability are addressed below.

**CALIBRATION VERIFICATION**

The Percent Recoveries (%Rs) for the last two cyanide continuing calibrations exceeded the 115% upper quality control limit. No qualifications were made as only positive results are affected and no positive results were reported for cyanide.

**BLANKS**

Field and laboratory blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (mg/kg) |
|---|---|---|
| Lead | 0.9 | 0.9 |
| Copper | 15.2 | 15.2 |
| Zinc | 11.2 | 11.2 |
| Nickel | 12.8 | 12.8 |

| Analyte | Maximum Concentration (mg/kg) | Action Level* (mg/kg) |
|---|---|---|
| Aluminum | 13.6 | 68 |
| Calcium | 43.7 | 218.5 |
| Iron | 9.5 | 47.5 |
| Magnesium | 203 | 1015 |
| Sodium | 102 | 510 |

* Actual level varies with individual moisture content and weight of sample digested.

Positive results within the action level are qualified (U), undetected.

TINKER AIR FORCE BASE
CASE # TAFB1, SDG TAFB7

TABLE 1 - RECOMMENDATION SUMMARY

| | | | |
|---|---|---|---|
| Aluminum | A[1], J[1] | Magnesium | A[1] |
| Antimony | J[3] | Manganese | |
| Arsenic | | Mercury | |
| Barium | J[2], J[4] | Nickel | A[1] |
| Beryllium | | Potassium | |
| Cadmium | | Selenium | J[3] |
| Calcium | A[1] | Silver | J[3] |
| Chromium | J[3] | Sodium | A[1] |
| Cobalt | | Thallium | |
| Copper | A[1] | Vanadium | |
| Iron | A[1] | Zinc | A[1] |
| Lead | A[1], J[2] | Cyanide | |

If the field is left blank, the qualifier is A - Accept all data.

A[1] - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

J[1] - Estimate "J" positive results because of the suppression noted in the ICP serial silution analysis. %D between undiluted and dilute sample results was > 15.

J[2] - Estimate "J" positive results because matrix spike recovery was high.

J[3] - Estimate "J" positive results and "UJ" nondetects because matrix spike recovery was low.

J[4] - Estimate "J" positive results because laboratory duplicate RPD was > 35%.

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RB-MAR12A

EPA SAMPLE NO

1

INORGANIC ANALYSIS DATA SHEET

H20470

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB01

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/15/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 9.1 | | [redacted] | P |
| 7440-36-0 | Antimony | 1.1 | U | [redacted] | F |
| 7440-38-2 | Arsenic | 0.27 | U | [redacted] | F |
| 7440-39-3 | Barium | 3.4 | U | [redacted] | P |
| 7440-41-7 | Beryllium | 0.30 | U | | P |
| 7440-43-9 | Cadmium | 0.58 | U | | P |
| 7440-70-2 | Calcium | 9.9 | | [redacted] | P |
| 7440-47-3 | Chromium | 1.5 | U | [redacted] | P |
| 7440-48-4 | Cobalt | 1.2 | U | [redacted] | P |
| 7440-50-8 | Copper | 2.3 | | [redacted] | P |
| 7439-89-6 | Iron | 9.5 | | [redacted] | P |
| 7439-92-1 | Lead | 0.14 | U | [redacted] | F |
| 7439-95-4 | Magnesium | 203 | | [redacted] | A |
| 7439-96-5 | Manganese | 0.73 | U | | P |
| 7439-97-6 | Mercury | 0.05U [redacted] | | | CV |
| 7440-02-0 | Nickel | 1.9 | U | | P |
| 7440-09-7 | Potassium | 15.9 | U | | A |
| 7782-49-2 | Selenium | 0.39 | U | [redacted] | F |
| 7440-22-4 | Silver | 1.4 | U | [redacted] | P |
| 7440-23-5 | Sodium | 86.4 | U | | A |
| 7440-28-0 | Thallium | 0.25 | U | [redacted] | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 1.7 | | [redacted] | P |
| | Cyanide | 0.23 | U | | C |

Color Before: COLORLESS Clarity Before: CLEAR Texture: WATER

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-MAR12A

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB0

Initial Calibration Source: L,F,IV,R

Continuing Calibration Source: L,F,IV,R

Concentration Units: ug/L

| | Initial Calibration | | | Continuing Calibration | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Analyte | True | Found | %R(1) | True | Found | %R(1) | Found | %R(1) | M |
| Aluminum | 5000.0 | 5066.00 | 101.3 | 5000.0 | 5041.00 | 100.8 | 5034.00 | 100.7 | P |
| Antimony | 100.0 | 99.90 | 99.9 | 100.0 | 100.60 | 100.6 | 103.00 | 103.0 | P |
| Arsenic | 25.0 | 25.80 | 103.2 | 25.0 | 24.50 | 98.0 | 23.00 | 92.0 | P |
| Barium | 2000.0 | 1994.10 | 99.7 | 2000.0 | 1978.40 | 98.9 | 2028.00 | 101.4 | P |
| Beryllium | 500.0 | 481.70 | 96.3 | 500.0 | 497.90 | 99.6 | 490.90 | 98.2 | P |
| Cadmium | 500.0 | 524.20 | 104.8 | 500.0 | 513.80 | 102.8 | 520.30 | 104.1 | P |
| Calcium | 10000.0 | 10019.00 | 100.2 | 10000.0 | 10109.00 | 101.1 | 10058.00 | 100.5 | P |
| Chromium | 1000.0 | 1062.00 | 106.2 | 1000.0 | 1056.30 | 105.6 | 1057.00 | 105.7 | P |
| Cobalt | 1000.0 | 1041.00 | 104.1 | 1000.0 | 1040.90 | 104.1 | 1043.70 | 104.4 | P |
| Copper | 1000.0 | 1033.00 | 103.3 | 1000.0 | 1044.00 | 104.4 | 1041.00 | 104.1 | P |
| Iron | 5000.0 | 5310.00 | 106.2 | 5000.0 | 5278.00 | 105.6 | 5281.00 | 105.6 | P |
| Lead | 25.0 | 25.00 | 100.0 | 25.0 | 25.80 | 103.2 | 25.90 | 103.6 | F |
| Magnesium | 25000.0 | 24740.00 | 99.0 | 25000.0 | 24460.00 | 97.8 | 24180.00 | 96.7 | A |
| Manganese | 1000.0 | 1025.90 | 102.6 | 1000.0 | 1017.20 | 101.7 | 1022.00 | 102.2 | P |
| Mercury | 2.0 | 2.20 | 110.0 | 2.0 | 2.20 | 110.0 | 2.20 | 110.0 | CV |
| Nickel | 1000.0 | 1031.70 | 103.2 | 1000.0 | 1026.80 | 102.7 | 1030.90 | 103.1 | P |
| Potassium | 25000.0 | 25210.00 | 100.8 | 25000.0 | 24960.00 | 99.8 | 24940.00 | 99.8 | A |
| Selenium | 25.0 | 26.80 | 107.2 | 25.0 | 25.60 | 102.4 | 23.40 | 93.6 | F |
| Silver | 500.0 | 510.00 | 102.0 | 500.0 | 507.60 | 101.5 | 503.40 | 100.7 | P |
| Sodium | 25000.0 | 24060.00 | 96.2 | 25000.0 | 24080.00 | 96.3 | 24600.00 | 98.4 | A |
| Thallium | 25.0 | 25.20 | 100.8 | 25.0 | 25.20 | 100.8 | 26.40 | 105.6 | F |
| Vanadium | 1000.0 | 1012.30 | 101.2 | 1000.0 | 1033.70 | 103.4 | 1004.80 | 100.5 | P |
| Zinc | 1000.0 | 1022.20 | 102.2 | 1000.0 | 1009.80 | 101.0 | 1011.70 | 101.2 | P |
| Cyanide | 110.0 | 113.30 | 103.0 | 100.0 | 124.40 | 124.4 | 125.00 | 125.0 | C |

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG ug/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | | |
| Antimony | | | | | | | | | | | |
| Arsenic | | | 1.4 | U | 1.4 | U | | | | | F |
| Barium | | | | | | | | | | | |
| Beryllium | | | | | | | | | | | |
| Cadmium | | | | | | | | | | | |
| Calcium | | | | | | | | | | | |
| Chromium | | | | | | | | | | | |
| Cobalt | | | | | | | | | | | |
| Copper | | | | | | | | | | | |
| Iron | | | | | | | | | | | |
| Lead | | | 0.8 | B | | | | | | | F |
| Magnesium | | | | | | | | | | | |
| Manganese | | | | | | | | | | | |
| Mercury | | | | | | | | | | | |
| Nickel | | | | | | | | | | | |
| Potassium | | | | | | | | | | | |
| Selenium | | | | | | | | | | | |
| Silver | | | | | | | | | | | |
| Sodium | | | | | | | | | | | |
| Thallium | | | 1.3 | U | | | | | | | F |
| Vanadium | | | | | | | | | | | |
| Zinc | | | | | | | | | | | |
| Cyanide | | | | | | | | | | | |
| | | | | | | | | | | | |

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.: H20453S

Lab Name: NUS CORPORATION  Contract: TAFB

Lab Code:  Case No.: TAFB1  SAS No.:  SDG No.: TAFB0

Matrix (soil/water): SOIL  Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | NR |
| Antimony | 75-125 | 7.3641 | B | 1.2794 | U | 23.5 | 31.3 | N | P |
| Arsenic | 75-125 | 10.0412 | | 2.4723 | | 9.4 | 80.5 | | P |
| Barium | 75-125 | 2514.7243 | | 297.0952 | | 470.5 | 471.3 | N | P |
| Beryllium | 75-125 | 12.2578 | | 0.9898 | B | 11.8 | 95.5 | | P |
| Cadmium | 75-125 | 10.5873 | | 0.7001 | U | 11.8 | 89.7 | | P |
| Calcium | | | | | | | | | NR |
| Chromium | 75-125 | 78.5109 | | 46.0839 | | 47.1 | 68.8 | N | P |
| Cobalt | 75-125 | 119.1191 | | 28.8236 | | 117.6 | 76.8 | | P |
| Copper | 75-125 | 63.9239 | | 13.8807 | | 58.8 | 85.1 | | P |
| Iron | | | | | | | | | NR |
| Lead | 75-125 | 23.5238 | | 11.6010 | | 4.7 | 253.7 | N | P |
| Magnesium | | | | | | | | | NR |
| Manganese | | 899.4518 | | 2357.7874 | | 117.6 | -1240.1 | | P |
| Mercury | 75-125 | 0.6800 | | 0.0596 | U | 0.6 | 113.3 | | CV |
| Nickel | 75-125 | 131.8004 | | 32.2274 | | 117.6 | 84.7 | | P |
| Potassium | | | | | | | | | NR |
| Selenium | 75-125 | 1.1550 | B | 0.4755 | U | 2.4 | [illegible] | N | P |
| Silver | 75-125 | 7.9906 | | 1.7592 | U | 11.8 | 67.7 | N | P |
| Sodium | | | | | | | | | NR |
| Thallium | 75-125 | 9.1691 | | 0.3090 | U | 11.8 | 77.7 | | P |
| Vanadium | 75-125 | 137.7999 | | 36.1864 | | 117.6 | 86.4 | | P |
| Zinc | 75-125 | 139.2351 | | 42.4870 | | 117.6 | 82.3 | | P |
| Cyanide | 75-125 | 2.6909 | | 0.2700 | U | 2.9 | 92.8 | | C |

Comments:

9

# ICP SERIAL DILUTIONS

EPA SAMPLE NU

H20453L

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB(

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

| Analyte | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Difference | Q | M |
|---|---|---|---|---|---|---|---|
| Aluminum | 98220.00 | | 113600.00 | | 15.7 | E | P |
| Antimony | | | | | | | F |
| Arsenic | | | | | | | F |
| Barium | 1230.70 | | 1167.50 | | 5.1 | | P |
| Beryllium | | | | | | | NR |
| Cadmium | | | | | | | NR |
| Calcium | | | | | | | NR |
| Chromium | | | | | | | NR |
| Cobalt | | | | | | | NR |
| Copper | | | | | | | NR |
| Iron | 112120.00 | | 111400.00 | | 0.6 | | P |
| Lead | | | | | | | F |
| Magnesium | | | | | | | A |
| Manganese | 9767.00 | | 9902.50 | | 1.4 | | P |
| Mercury | | | | | | | CV |
| Nickel | | | | | | | NR |
| Potassium | | | | | | | A |
| Selenium | | | | | | | F |
| Silver | | | | | | | NR |
| Sodium | | | | | | | A |
| Thallium | | | | | | | F |
| Vanadium | | | | | | | NR |
| Zinc | 176.00 | | 184.00 | | 4.5 | | P |

Data which did not meet quality criteria are discussed below.

Volatile Fraction

The majority of samples analyzed were found to be free of environmental contamination. Concentrations below the CRQL were reported for tetrachloroethene in samples T-SU-SB211C and T-SU-SB215B. Positive results above the CRQL were reported for 2-1,1,1-trichloroethane in sample T-SU-SB212B. Sample T-SU-SB213A contained trichloroethene and tetrachloroethene at levels greater than the CRQL. Groundwater sample T-GW-SB212B was found to contain total-1,2-dichloroethene, trichloroethene and tetrachloroethene. The compounds trichloroethene and tetrachloroethene were also detected in groundwater sample T-GW-SB213 and its field duplicate partner, sample T-GW-SB213X.

The following contaminants were detected in trip, field, rinsate and laboratory method blanks analyses in the maximum concentrations indicated:

| Common Contaminant | Maximum Concentration (ug/kg) |
|---|---|
| acetone | 24 |

| Contaminant | Maximum Concentration (ug/kg) |
|---|---|
| chloroform | 18 |

Action levels of 10X the maximum amount of common contaminant and 5X the maximum amount of other contaminant(s) detected were used to evaluate the data. Adjustments for individual sample size and moisture content were made prior to the application of the action levels. Sample contaminant concentrations reported at levels below the Contract Required Quantitation Limit (CRQL) have been deleted (i.e. values have been replaced by the CRQL, then qualified "U", undetected.) Sample contaminant concentrations above the CRQL and within the action level remain as reported followed by the undetected qualifier, "U".

No qualifications were made for chloroform as no positive sample results were reported for this compound.

The initial calibration average Relative Response Factor (RRF) and some continuing calibration RFs for 2-butanone were less than

Semivolatile Fraction

All samples were determined to be free of semivolatile contamination, except for samples T-SU-SB-211C and T-SU-SB213A, which contained various phalates at concentrations below the CRQL.

Initial calibration %RSDs for 3,3'-dichlorobenzidine exceeded the ± 30% quality control criteria. No qualifications were made since no positive results were reported for this compound.

One continuing calibration %D for 4-nitroanline exceeded 50%; samples T-SU-SB211C and T-SU-SB211X were affected. Non-detects for 4-nitroaniline in these two samples are qualified as estimated, "UJ".

Some continuing calibration %Ds for several compounds exceeded the ± 25% quality control limit. No other qualifications were made as no positive results were reported for the affected compounds in affected samples.

The following TICs were detected in trip, rinsate and laboratory method blanks analyzed with this sample set in the maximum estimated concentrations indicated:

| TIC | Maximum Concentration (ug/kg) |
|---|---|
| 3,5-dimethyl-2-cyclohexen-1-one | 220 |
| 2,3-dimethylheptane | 450 |
| 2,4-dimethylheptane | 430 |
| 3,4-dimethylheptane | 260 |
| 4-(1-methyleyhyl)heptane | 740 |
| 2-methyl-1-propanoic acid | 210 |
| 3-hexen-2-one | 480 |
| 4-methyl-actane | 660 |
| aldol condensation product | 2100 |
| 1,1,2,2-textramethyl-cyclopropane | 180 |
| 2-ethyl-hexanedioic acid, mono ester | 22000 |
| 2,3,4-trimethyl-hexane | 340 |

An unknown (RT 28.32) was also detected. Sample results for these TICs which are at concentrations less than 5X the maximum amounts listed above are stricken (crossed-out) on the Form I SV-TIC reports.

Please do not hesitate to contact me if you have any questions regarding this review.

$J^3$ - Estimate "UJ" nondetects for 4-nitroaniline because of continuing calibration %D > 50.

$R^1$ - Reject "R" nondetect for 2-butanone because of calibration response factor less than 0.050.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAP18A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120853

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03219010

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. _____ Date Analyzed: 03/21/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 18 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

VOLATILE ORGANICS ANALYSIS DATA SHEET

TTBMAR19A2

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120900

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03219012

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. _____ Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 74-87-3 | Chloromethane | 10 U |
| 74-83-9 | Bromomethane | 10 U |
| 75-01-4 | Vinyl Chloride | 10 U |
| 75-00-3 | Chloroethane | 10 U |
| 75-09-2 | Methylene Chloride | 5 U |
| 67-64-1 | Acetone | 10 U |
| 75-15-0 | Carbon Disulfide | 5 U |
| 75-35-4 | 1,1-Dichloroethene | 5 U |
| 75-34-3 | 1,1-Dichloroethane | 5 U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 U |
| 67-66-3 | Chloroform | 5 U |
| 107-06-2 | 1,2-Dichloroethane | 5 U |
| 78-93-3 | 2-Butanone | 10 U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 U |
| 56-23-5 | Carbon Tetrachloride | 5 U |
| 108-05-4 | Vinyl Acetate | 10 U |
| 75-27-4 | Bromodichloromethane | 5 U |
| 78-87-5 | 1,2-Dichloropropane | 5 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 U |
| 79-01-6 | Trichloroethene | 5 U |
| 124-48-1 | Dibromochloromethane | 5 U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 U |
| 71-43-2 | Benzene | 5 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 U |
| 75-25-2 | Bromoform | 5 U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 U |
| 591-78-6 | 2-Hexanone | 10 U |
| 127-18-4 | Tetrachloroethene | 5 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 U |
| 108-88-3 | Toluene | 5 U |
| 108-90-7 | Chlorobenzene | 5 U |
| 100-41-4 | Ethylbenzene | 5 U |
| 100-42-5 | Styrene | 5 U |
| 1330-20-7 | Xylene (total) | 5 U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120852

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069009

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAB18A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120853

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069010

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Instrument ID: 50A Calibration date: 03/19/90 Time: 2302

Lab File ID: SIA03199004 Init. Calib. Date(s): 03/18/90 03/18/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.511 | 1.171 | 22.5 | # |
| Bromomethane | | 1.866 | 1.820 | 2.5 | |
| Vinyl Chloride | * | 1.811 | 1.581 | 12.7 | * |
| Chloroethane | | 1.145 | 1.075 | 6.1 | |
| Methylene Chloride | | 1.776 | 1.941 | -9.3 | |
| Acetone | | 2.529 | 2.516 | 0.5 | |
| Carbon Disulfide | | 4.456 | 3.268 | 26.7 | |
| 1,1-Dichloroethene | * | 1.241 | 0.955 | 23.0 | * |
| 1,1-Dichloroethane | # | 3.119 | 2.999 | 3.8 | # |
| 1,2-Dichloroethene (total) | | 1.294 | 1.156 | 10.7 | |
| Chloroform | * | 3.269 | 3.153 | 3.5 | * |
| 1,2-Dichloroethane | | 2.533 | 2.570 | -1.5 | |
| 2-Butanone | | 0.410 | 0.411 | -0.2 | |
| 1,1,1-Trichloroethane | | 0.672 | 0.648 | 3.6 | |
| Carbon Tetrachloride | | 0.625 | 0.578 | 7.5 | |
| Vinyl Acetate | | 1.105 | 1.063 | 3.8 | |
| Bromodichloromethane | | 0.803 | 0.800 | 0.4 | |
| 1,2-Dichloropropane | * | 0.493 | 0.494 | -0.2 | * |
| cis-1,3-Dichloropropene | | 0.678 | 0.680 | -0.3 | |
| Trichloroethene | | 0.485 | 0.468 | 3.5 | |
| Dibromochloromethane | | 0.681 | 0.635 | 6.8 | |
| 1,1,2-Trichloroethane | | 0.410 | 0.410 | 0.0 | |
| Benzene | | 0.995 | 0.961 | 3.4 | |
| trans-1,3-Dichloropropene | | 0.675 | 0.645 | 4.4 | |
| Bromoform | # | 0.525 | 0.504 | 4.0 | # |
| 4-Methyl-2-Pentanone | | 1.248 | 1.217 | 2.5 | |
| 2-Hexanone | | 1.251 | 1.167 | 6.7 | |
| Tetrachloroethene | | 0.468 | 0.437 | 6.6 | |
| 1,1,2,2-Tetrachloroethane | # | 0.855 | 0.801 | 6.3 | # |
| Toluene | * | 0.965 | 0.898 | 6.9 | * |
| Chlorobenzene | # | 1.188 | 1.154 | 2.9 | # |
| Ethylbenzene | * | 0.614 | 0.580 | 5.5 | * |
| Styrene | | 1.318 | 1.314 | 0.3 | |
| Xylene (total) | | 0.779 | 0.765 | 1.8 | |
| Toluene-d8 | | 0.890 | 0.849 | 4.6 | |
| Bromofluorobenzene | | 0.947 | 0.956 | -1.0 | |
| 1,2-Dichloroethane-d4 | | 2.984 | 3.087 | -3.5 | |
| | | | | | |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Instrument ID: 50A Calibration date: 03/21/90 Time: 548

Lab File ID: SIA03219002 Init. Calib. Date(s): 03/18/90 03/18/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.511 | 1.595 | -5.6 | # |
| Bromomethane | | 1.866 | 2.085 | -11.7 | |
| Vinyl Chloride | * | 1.811 | 1.994 | -10.1 | * |
| Chloroethane | | 1.145 | 1.251 | -9.3 | |
| Methylene Chloride | | 1.776 | 1.818 | -2.4 | |
| Acetone | | 2.529 | 1.796 | 29.0 | |
| Carbon Disulfide | | 4.456 | 2.544 | 42.9 | |
| 1,1-Dichloroethene | * | 1.241 | 1.048 | 15.6 | * |
| 1,1-Dichloroethane | # | 3.119 | 3.261 | -4.6 | # |
| 1,2-Dichloroethene (total) | | 1.294 | 1.127 | 12.9 | |
| Chloroform | * | 3.269 | 3.588 | -9.8 | * |
| 1,2-Dichloroethane | | 2.533 | 2.744 | -8.3 | |
| 2-Butanone | | 0.410 | 0.321 | 21.7 | |
| 1,1,1-Trichloroethane | | 0.672 | 0.695 | -3.4 | |
| Carbon Tetrachloride | | 0.625 | 0.593 | 5.1 | |
| Vinyl Acetate | | 1.105 | 0.911 | 17.6 | |
| Bromodichloromethane | | 0.803 | 0.860 | -7.1 | |
| 1,2-Dichloropropane | * | 0.493 | 0.513 | -4.1 | * |
| cis-1,3-Dichloropropene | | 0.678 | 0.703 | -3.7 | |
| Trichloroethene | | 0.485 | 0.433 | 10.7 | |
| Dibromochloromethane | | 0.681 | 0.645 | 5.3 | |
| 1,1,2-Trichloroethane | | 0.410 | 0.404 | 1.5 | |
| Benzene | | 0.995 | 0.979 | 1.6 | |
| trans-1,3-Dichloropropene | | 0.675 | 0.667 | 1.2 | |
| Bromoform | # | 0.525 | 0.466 | 11.2 | # |
| 4-Methyl-2-Pentanone | | 1.248 | 0.953 | 23.6 | |
| 2-Hexanone | | 1.251 | 0.930 | 25.7 | |
| Tetrachloroethene | | 0.468 | 0.426 | 9.0 | |
| 1,1,2,2-Tetrachloroethane | # | 0.855 | 0.767 | 10.3 | # |
| Toluene | * | 0.965 | 0.907 | 6.0 | * |
| Chlorobenzene | # | 1.188 | 1.166 | 1.9 | # |
| Ethylbenzene | * | 0.614 | 0.587 | 4.4 | * |
| Styrene | | 1.318 | 1.336 | -1.4 | |
| Xylene (total) | | 0.779 | 0.758 | 2.7 | |
| Toluene-d8 | | 0.890 | 0.901 | -1.2 | |
| Bromofluorobenzene | | 0.947 | 0.990 | -4.5 | |
| 1,2-Dichloroethane-d4 | | 2.984 | 3.406 | -14.1 | |

7A

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Instrument ID: INCOSF Calibration date: 03/21/90 Time: 2222

Lab File ID: 6VT03219003 Init. Calib. Date(s): 03/13/90 03/13/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

Associated Samples:
TGWSB212B
TTBMAR19A2

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.757 | 0.741 | 2.1 | # |
| Bromomethane | | 1.049 | 1.212 | -15.5 | |
| Vinyl Chloride | * | 0.947 | 1.020 | -7.7 | * |
| Chloroethane | | 0.729 | 0.784 | -7.5 | |
| Methylene Chloride | | 1.463 | 1.607 | -9.8 | |
| Acetone | | 0.307 | 0.242 | 21.2 | |
| Carbon Disulfide | | 1.683 | 1.497 | 11.1 | |
| 1,1-Dichloroethene | * | 1.267 | 1.431 | -12.9 | * |
| 1,1-Dichloroethane | # | 2.810 | 2.917 | -3.8 | # |
| 1,2-Dichloroethene (total) | | 1.341 | 1.472 | -9.8 | |
| Chloroform | * | 3.169 | 3.507 | -10.7 | * |
| 1,2-Dichloroethane | | 1.914 | 1.946 | -1.7 | |
| 2-Butanone | | 0.028 | 0.026 | 7.1 | |
| 1,1,1-Trichloroethane | | 0.633 | 0.665 | -5.1 | |
| Carbon Tetrachloride | | 0.542 | 0.566 | -4.4 | |
| Vinyl Acetate | | 0.309 | 0.306 | 1.0 | |
| Bromodichloromethane | | 0.716 | 0.746 | -4.2 | |
| 1,2-Dichloropropane | * | 0.440 | 0.461 | -4.8 | * |
| cis-1,3-Dichloropropene | | 0.359 | 0.355 | 1.1 | |
| Trichloroethene | | 0.447 | 0.506 | -13.2 | |
| Dibromochloromethane | | 0.625 | 0.661 | -5.8 | |
| 1,1,2-Trichloroethane | | 0.406 | 0.450 | -10.8 | |
| Benzene | | 0.908 | 0.978 | -7.7 | |
| trans-1,3-Dichloropropene | | 0.718 | 0.730 | -1.7 | |
| Bromoform | # | 0.466 | 0.500 | -7.3 | # |
| 4-Methyl-2-Pentanone | | 0.367 | 0.355 | 3.3 | |
| 2-Hexanone | | 0.287 | 0.248 | 13.6 | |
| Tetrachloroethene | | 0.434 | 0.511 | -17.7 | |
| 1,1,2,2-Tetrachloroethane | # | 0.682 | 0.703 | -3.1 | # |
| Toluene | * | 0.699 | 0.778 | -11.3 | * |
| Chlorobenzene | # | 0.975 | 1.104 | -13.2 | # |
| Ethylbenzene | * | 0.488 | 0.547 | -12.1 | * |
| Styrene | | 0.940 | 1.050 | -11.7 | |
| Xylene (total) | | 0.558 | 0.550 | 1.4 | |
| Toluene-d8 | | 1.080 | 1.158 | -7.2 | |
| BFB | | 0.888 | 0.961 | -8.2 | |
| 1,2-Dichloroethane-d4 | | 1.826 | 1.798 | 1.5 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Instrument ID: 4500A Calibration date: 03/20/90 Time: 0826

Lab File ID: 2VT03209001 Init. Calib. Date(s): 03/19/90 03/19/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

Associated Samples: VBLK BA TSUSB212C ✓

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.639 | 0.575 | 10.0 | # |
| Bromomethane | | 0.817 | 0.826 | -1.1 | |
| Vinyl Chloride | * | 0.622 | 0.632 | -1.6 | * |
| Chloroethane | | 0.400 | 0.442 | -10.5 | |
| Methylene Chloride | | 0.907 | 1.093 | -20.5 | |
| Acetone | | 0.451 | 0.313 | 30.6 | |
| Carbon Disulfide | | 2.014 | 1.864 | 7.4 | |
| 1,1-Dichloroethene | * | 1.300 | 1.264 | 2.8 | * |
| 1,1-Dichloroethane | # | 2.318 | 2.336 | -0.8 | # |
| 1,2-Dichloroethene (total) | | 1.358 | 1.372 | -1.0 | |
| Chloroform | * | 2.603 | 2.718 | -4.4 | * |
| 1,2-Dichloroethane | | 1.308 | 1.241 | 5.1 | |
| 2-Butanone | | 0.081 | 0.028 | 65.4 | |
| 1,1,1-Trichloroethane | | 0.508 | 0.547 | -7.7 | |
| Carbon Tetrachloride | | 0.477 | 0.476 | 0.2 | |
| Vinyl Acetate | | 0.373 | 0.274 | 26.5 | |
| Bromodichloromethane | | 0.708 | 0.712 | -0.6 | |
| 1,2-Dichloropropane | * | 0.399 | 0.403 | -1.0 | * |
| cis-1,3-Dichloropropene | | 0.591 | 0.737 | -24.7 | |
| Trichloroethene | | 0.459 | 0.452 | 1.5 | |
| Dibromochloromethane | | 0.726 | 0.699 | 3.7 | |
| 1,1,2-Trichloroethane | | 0.404 | 0.380 | 5.9 | |
| Benzene | | 0.895 | 0.884 | 1.2 | |
| trans-1,3-Dichloropropene | | 0.355 | 0.340 | 4.2 | |
| Bromoform | # | 0.673 | 0.557 | 17.2 | # |
| 4-Methyl-2-Pentanone | | 0.634 | 0.303 | 52.2 | ✓ |
| 2-Hexanone | | 0.518 | 0.272 | 47.5 | |
| Tetrachloroethene | | 0.486 | 0.459 | 5.6 | |
| 1,1,2,2-Tetrachloroethane | # | 1.036 | 0.731 | 29.4 | # |
| Toluene | * | 0.716 | 0.690 | 3.6 | * |
| Chlorobenzene | # | 1.010 | 0.991 | 1.9 | # |
| Ethylbenzene | * | 0.461 | 0.446 | 3.3 | * |
| Styrene | | 0.915 | 0.902 | 1.4 | |
| Xylene (total) | | 0.486 | 0.221 | 54.5 | ✓ |
| Toluene-d8 | | 1.380 | 1.008 | 27.0 | |
| BFB | | 1.072 | 0.815 | 24.0 | |
| 1,2-Dichloroethane-d4 | | 1.578 | 1.149 | 27.2 | |

non-detects R

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Instrument ID: 4500A Calibration date: 03/21/90 Time: 0750

Lab File ID: 2VT03219001 Init. Calib. Date(s): 03/19/90 03/19/90

Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

Associated Samples:
TSUSB212A ✓
TSUSB211A ✓
TSUSB212B ✓
TSUSB213B ✓
TSUSB214B ✓
TSUSB215B ✓

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.639 | 0.679 | -6.3 | # |
| Bromomethane | 0.817 | 0.903 | -10.5 | |
| Vinyl Chloride | 0.622 | 0.738 | -18.7 | * |
| Chloroethane | 0.400 | 0.483 | -20.8 | |
| Methylene Chloride | 0.907 | 1.035 | -14.1 | |
| Acetone | 0.451 | 0.188 | 58.3 | ✓ |
| Carbon Disulfide | 2.014 | 1.905 | 5.4 | |
| 1,1-Dichloroethene | 1.300 | 1.263 | 2.8 | * |
| 1,1-Dichloroethane | 2.318 | 2.319 | 0.0 | # |
| 1,2-Dichloroethene (total) | 1.358 | 1.396 | -2.8 | |
| Chloroform | 2.603 | 2.647 | -1.7 | * |
| 1,2-Dichloroethane | 1.308 | 1.271 | 2.8 | |
| 2-Butanone | 0.081 | 0.032 | 60.5 | Non-detects R |
| 1,1,1-Trichloroethane | 0.508 | 0.514 | -1.2 | |
| Carbon Tetrachloride | 0.477 | 0.474 | 0.6 | |
| Vinyl Acetate | 0.373 | 0.339 | 9.1 | |
| Bromodichloromethane | 0.708 | 0.723 | -2.1 | |
| 1,2-Dichloropropane | 0.399 | 0.394 | 1.3 | * |
| cis-1,3-Dichloropropene | 0.591 | 0.736 | -24.5 | |
| Trichloroethene | 0.459 | 0.457 | 0.4 | |
| Dibromochloromethane | 0.726 | 0.704 | 3.0 | |
| 1,1,2-Trichloroethane | 0.404 | 0.372 | 7.9 | |
| Benzene | 0.895 | 0.878 | 1.9 | |
| trans-1,3-Dichloropropene | 0.355 | 0.347 | 2.3 | |
| Bromoform | 0.673 | 0.581 | 13.7 | # |
| 4-Methyl-2-Pentanone | 0.634 | 0.402 | 36.6 | |
| 2-Hexanone | 0.518 | 0.327 | 36.9 | |
| Tetrachloroethene | 0.486 | 0.479 | 1.4 | |
| 1,1,2,2-Tetrachloroethane | 1.036 | 0.809 | 21.9 | # |
| Toluene | 0.716 | 0.692 | 3.4 | * |
| Chlorobenzene | 1.010 | 0.992 | 1.8 | # |
| Ethylbenzene | 0.461 | 0.450 | 2.4 | * |
| Styrene | 0.915 | 0.895 | 2.2 | |
| Xylene (total) | 0.486 | 0.204 | 58.0 | ✓ |
| Toluene-d8 | 1.380 | 1.016 | 26.4 | |
| BFB | 1.072 | 0.763 | 28.8 | |
| 1,2-Dichloroethane-d4 | 1.578 | 1.182 | 25.1 | |

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Instrument ID: INCOSE Calibration Date(s): 03/28/90 03/29/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 5BT03289004 RRF50 = 5BT03289003
RRF80 = 5BT03289005 RRF120= 5BT03289006 RRF160= 5BT03299003

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Dibenzofuran | 1.520 | 1.556 | 1.463 | 1.357 | 1.095 | 1.398 | 13.3 |
| 2,4-Dinitrotoluene | 0.276 | 0.320 | 0.316 | 0.318 | 0.325 | 0.311 | 6.4 |
| Diethylphthalate | 1.023 | 1.147 | 1.135 | 1.123 | 0.983 | 1.082 | 6.9 |
| 4-Chlorophenyl-phenylether | 0.526 | 0.572 | 0.532 | 0.523 | 0.429 | 0.516 | 10.2 |
| Fluorene | 1.243 | 1.273 | 1.162 | 1.085 | 0.825 | 1.118 | 16.0 |
| 4-Nitroaniline | | 0.207 | 0.198 | 0.259 | 0.254 | 0.230 | 13.7 |
| 4,6-Dinitro-2-Methylphenol | | 0.117 | 0.110 | 0.122 | 0.131 | 0.120 | 7.4 |
| N-Nitrosodiphenylamine (1) * | 0.483 | 0.484 | 0.468 | 0.469 | 0.410 | 0.463 | 6.6* |
| 4-Bromophenyl-phenylether | 0.198 | 0.231 | 0.225 | 0.233 | 0.213 | 0.220 | 6.6 |
| Hexachlorobenzene | 0.219 | 0.240 | 0.235 | 0.242 | 0.217 | 0.231 | 5.1 |
| Pentachlorophenol * | | 0.140 | 0.132 | 0.145 | 0.142 | 0.140 | 4.0* |
| Phenanthrene | 1.082 | 1.086 | 1.027 | 0.964 | 0.741 | 0.980 | 14.5 |
| Anthracene | 1.093 | 1.090 | 1.037 | 0.962 | 0.743 | 0.985 | 14.8 |
| Di-n-Butylphthalate | 1.074 | 1.148 | 1.124 | 1.075 | 0.827 | 1.050 | 12.2 |
| Fluoranthene * | 0.984 | 0.968 | 0.849 | 0.946 | 0.770 | 0.903 | 10.1* |
| Pyrene | 1.644 | 1.909 | 2.166 | 1.708 | 1.166 | 1.719 | 21.5 |
| Butylbenzylphthalate | 0.563 | 0.678 | 0.720 | 0.736 | 0.625 | 0.664 | 10.7 |
| 3,3'-Dichlorobenzidine | 0.246 | 0.222 | 0.212 | 0.363 | 0.432 | 0.295 | 33.0 |
| Benzo(a)Anthracene | 1.143 | 1.284 | 1.280 | 1.289 | 1.069 | 1.213 | 8.3 |
| Chrysene | 1.002 | 1.149 | 1.152 | 1.187 | 0.876 | 1.073 | 12.2 |
| bis(2-Ethylhexyl)Phthalate | 0.704 | 0.858 | 0.876 | 0.935 | 0.790 | 0.833 | 10.6 |
| Di-n-Octyl Phthalate * | 1.168 | 1.439 | 1.337 | 1.491 | 1.304 | 1.348 | 9.3* |
| Benzo(b)Fluoranthene | 1.186 | 1.335 | 1.403 | 1.436 | 1.212 | 1.314 | 8.5 |
| Benzo(k)Fluoranthene | 1.145 | 1.234 | 1.325 | 1.333 | 1.096 | 1.227 | 8.6 |
| Benzo(a)Pyrene * | 1.054 | 1.221 | 1.235 | 1.338 | 1.153 | 1.200 | 8.8* |
| Indeno(1,2,3-cd)Pyrene | 1.030 | 1.113 | 1.087 | 1.185 | 1.151 | 1.113 | 5.4 |
| Dibenz(a,h)Anthracene | 0.792 | 0.939 | 0.940 | 1.008 | 0.912 | 0.918 | 8.6 |
| Benzo(g,h,i)Perylene | 0.854 | 0.950 | 1.003 | 0.952 | 0.848 | 0.921 | 7.4 |
| Nitrobenzene-d5 | 0.431 | 0.449 | 0.423 | 0.430 | 0.408 | 0.428 | 3.5 |
| 2-Fluorobiphenyl | 1.240 | 1.195 | 1.168 | 1.093 | 0.873 | 1.114 | 13.0 |
| Terphenyl-d14 | 0.945 | 1.144 | 1.301 | 1.110 | 0.844 | 1.069 | 16.7 |
| Phenol-d5 | 1.693 | 1.767 | 1.724 | 1.730 | 1.515 | 1.686 | 5.9 |
| 2-Fluorophenyl | 1.293 | 1.474 | 1.418 | 1.416 | 1.305 | 1.381 | 5.7 |
| 2,4,6-Tribromophenol | 0.111 | 0.154 | 0.151 | 0.162 | 0.159 | 0.147 | 14.1 |

(1) Cannot be separated from Diphenylamine

all samples

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Instrument ID: INCOSE Calibration date: 04/05/90 Time: 0604

Lab File ID: 5BT04059001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

Associated Samples: TSUSB211X, TSUSB211C

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Phenol | 1.938 | 1.977 | -2.0 | * |
| bis(2-Chloroethyl)Ether | 1.523 | 1.581 | -3.8 | |
| 2-Chlorophenol | 1.349 | 1.418 | -5.1 | |
| 1,3-Dichlorobenzene | 1.419 | 1.522 | -7.3 | |
| 1,4-Dichlorobenzene | 1.370 | 1.438 | -5.0 | * |
| Benzyl Alcohol | 0.882 | 0.794 | 10.0 | |
| 1,2-Dichlorobenzene | 1.309 | 1.392 | -6.3 | |
| 2-Methylphenol | 1.253 | 1.217 | 2.9 | |
| bis(2-Chloroisopropyl)Ether | 2.623 | 2.613 | 0.4 | |
| 4-Methylphenol | 1.270 | 1.238 | 2.5 | |
| N-Nitroso-Di-n-Propylamine | 1.134 | 0.985 | 13.1 | # |
| Hexachloroethane | 0.597 | 0.629 | -5.4 | |
| Nitrobenzene | 0.391 | 0.451 | -15.4 | |
| Isophorone | 0.745 | 0.735 | 1.3 | |
| 2-Nitrophenol | 0.198 | 0.230 | -16.2 | * |
| 2,4-Dimethylphenol | 0.345 | 0.360 | -4.3 | |
| Benzoic Acid | 0.178 | 0.178 | 0.0 | |
| bis(2-Chloroethoxy)Methane | 0.484 | 0.516 | -6.6 | |
| 2,4-Dichlorophenol | 0.286 | 0.324 | -13.3 | * |
| 1,2,4-Trichlorobenzene | 0.297 | 0.345 | -16.2 | |
| Naphthalene | 0.847 | 0.937 | -10.6 | |
| 4-Chloroaniline | 0.386 | 0.363 | 6.0 | |
| Hexachlorobutadiene | 0.151 | 0.181 | -19.9 | * |
| 4-Chloro-3-Methylphenol | 0.306 | 0.307 | -0.3 | * |
| 2-Methylnaphthalene | 0.611 | 0.634 | -3.8 | |
| Hexachlorocyclopentadiene | 0.163 | 0.159 | 2.5 | # |
| 2,4,6-Trichlorophenol | 0.358 | 0.417 | -16.5 | * |
| 2,4,5-Trichlorophenol | 0.350 | 0.380 | -8.6 | |
| 2-Chloronaphthalene | 1.031 | 1.166 | -13.1 | |
| 2-Nitroaniline | 0.456 | 0.382 | 16.2 | |
| Dimethyl Phthalate | 1.127 | 1.016 | 9.8 | |
| Acenaphthylene | 1.574 | 1.644 | -4.4 | |
| 2,6-Dinitrotoluene | 0.261 | 0.260 | 0.4 | |
| 3-Nitroaniline | 0.284 | 0.197 | 30.6 | |
| Acenaphthene | 1.047 | 1.092 | -4.3 | * |
| 2,4-Dinitrophenol | 0.144 | 0.094 | 34.7 | # |
| 4-Nitrophenol | 0.115 | 0.066 | 42.6 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Instrument ID: INCOSE Calibration date: 04/09/90 Time: 0835

Lab File ID: 5BT04109001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

SV-SB215B

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.555 | -11.2 | |
| 2,4-Dinitrotoluene | 0.311 | 0.320 | -2.9 | |
| Diethylphthalate | 1.082 | 1.139 | -5.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.599 | -16.1 | |
| Fluorene | 1.118 | 1.157 | -3.5 | |
| 4-Nitroaniline | 0.230 | 0.159 | 30.9 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.141 | -17.5 | |
| N-Nitrosodiphenylamine (1) | 0.463 | 0.540 | -16.6 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.263 | -19.6 | |
| Hexachlorobenzene | 0.231 | 0.267 | -15.6 | |
| Pentachlorophenol | 0.140 | 0.161 | -15.0 | * |
| Phenanthrene | 0.980 | 1.046 | -6.7 | |
| Anthracene | 0.985 | 1.034 | -5.0 | |
| Di-n-Butylphthalate | 1.050 | 1.092 | -4.0 | |
| Fluoranthene | 0.903 | 0.884 | 2.1 | * |
| Pyrene | 1.719 | 1.839 | -7.0 | |
| Butylbenzylphthalate | 0.664 | 0.596 | 10.2 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.223 | 24.4 | |
| Benzo(a)Anthracene | 1.213 | 1.224 | -0.9 | |
| Chrysene | 1.073 | 1.113 | -3.7 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.744 | 10.7 | |
| Di-n-Octyl Phthalate | 1.348 | 1.149 | 14.8 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.275 | 3.0 | |
| Benzo(k)Fluoranthene | 1.227 | 1.203 | 2.0 | |
| Benzo(a)Pyrene | 1.200 | 1.181 | 1.6 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.010 | 9.3 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.708 | 22.9 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.935 | -1.5 | |
| Nitrobenzene-d5 | 0.428 | 0.226 | 47.2 | |
| 2-Fluorobiphenyl | 1.114 | 0.619 | 44.4 | |
| Terphenyl-d14 | 1.069 | 0.590 | 44.8 | |
| Phenol-d5 | 1.686 | 0.468 | 72.2 | |
| 2-Fluorophenyl | 1.381 | 0.374 | 72.9 | |
| 2,4,6-Tribromophenol | 0.147 | 0.042 | 71.4 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Instrument ID: INCOSE Calibration date: 04/12/90 Time: 1115

Lab File ID: 5BT04129005 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

SV-SB214B

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.542 | -10.3 | |
| 2,4-Dinitrotoluene | 0.311 | 0.305 | 1.9 | |
| Diethylphthalate | 1.082 | 1.145 | -5.8 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.600 | -16.3 | |
| Fluorene | 1.118 | 1.154 | -3.2 | |
| 4-Nitroaniline | 0.230 | 0.165 | 28.3 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.118 | 1.7 | |
| N-Nitrosodiphenylamine (1) | 0.463 | 0.496 | -7.1 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.268 | -21.8 | |
| Hexachlorobenzene | 0.231 | 0.291 | -26.0 | |
| Pentachlorophenol | 0.140 | 0.153 | -9.3 | * |
| Phenanthrene | 0.980 | 1.027 | -4.8 | |
| Anthracene | 0.985 | 1.012 | -2.7 | |
| Di-n-Butylphthalate | 1.050 | 1.098 | -4.6 | |
| Fluoranthene | 0.903 | 0.998 | -10.5 | * |
| Pyrene | 1.719 | 1.576 | 8.3 | |
| Butylbenzylphthalate | 0.664 | 0.581 | 12.5 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.329 | -11.5 | |
| Benzo(a)Anthracene | 1.213 | 1.233 | -1.6 | |
| Chrysene | 1.073 | 1.120 | -4.4 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.750 | 10.0 | |
| Di-n-Octyl Phthalate | 1.348 | 1.221 | 9.4 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.272 | 3.2 | |
| Benzo(k)Fluoranthene | 1.227 | 1.107 | 9.8 | |
| Benzo(a)Pyrene | 1.200 | 1.181 | 1.6 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.234 | -10.9 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.940 | -2.4 | |
| Benzo(g,h,i)Perylene | 0.921 | 1.022 | -11.0 | |
| Nitrobenzene-d5 | 0.428 | 0.455 | -6.3 | |
| 2-Fluorobiphenyl | 1.114 | 1.228 | -10.2 | |
| Terphenyl-d14 | 1.069 | 1.068 | 0.1 | |
| Phenol-d5 | 1.686 | 1.762 | -4.5 | |
| 2-Fluorophenol | 1.381 | 1.480 | -7.2 | |
| 2,4,6-Tribromophenol | 0.147 | 0.169 | -15.0 | |

(1) Cannot be separated from Diphenylamine

HALLIBURTON NUS
*Environmental Corporation*

INTERNAL CORRESPONDENCE

C-49-7-0-6

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990 (Revised 10/91) PEER 10/91

**FROM:** DEBRA A. SCHEIB

**CC:** FILE

**SUBJECT:** INORGANIC DATA VALIDATION - METALS & CYANIDE
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB8

**SAMPLES:**

Soil: T-SU-

| | | |
|---|---|---|
| SB211A | SB212A | SB213B |
| SB211B | SB212B | SB214A |
| SB211X | SB212C | SB214B |
| SB211C | SB213A | SB215B |

Soil: T-

| | |
|---|---|
| RB-MAR17A | RB-MAR18A |

Soil: T-GW-

| | |
|---|---|
| SB211A | SB213 |
| SB212A | SB213X |

NUS Laboratories analyzed 16 soil samples and 2 rinsate blanks for Target Analyte List (TAL) metals and cyanide. Two field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- o Data completeness
- o Holding times
- o Calibration verification
- * o Laboratory blank analyses
- o ICP Interference check sample results
- * o Matrix spike recoveries
- * o Laboratory duplicates

(continued)

**MATRIX SPIKES**

Matrix spike recoveries for barium, lead and manganese exceeded the 125% upper quality control limit. Only positive results are affected. Positive results for these three analytes are qualified as estimated "J", and are biased high.

Matrix spike recoveries for selenium, silver, thallium and cyanide were below the 75% lower quality control limit. No positive results were reported for reported for these analytes; non-detects are qualified as estimated, "UJ", and are biased low.

The matrix spike Percent Recovery (%R) for arsenic (73.2%)and chromium (68.3) were below the 75% lower quality control limit. Positive results for arsenic and chromium are biased low and are qualified as estimated, "J". Non-detects for arsenic are qualified as estimated, "UJ".

The matrix spike recovery for zinc (29.1%) was below 30%. All positive results reported by the laboratory for zinc are qualified as estimated, "J", biased low. The matrix spike %R for antimony (6.1%) was below 30%. Antimony non-detects are considered to be unreliable and are rejected, qualified "R".

**LABORATORY DUPLICATES**

Results for barium, chromium and zinc exceed the 35% RPD (Relative Percent Difference) laboratory duplicate quality control criteria for soils. No further qualifications were made as all positive results for these analytes were previously qualified as estimated, "J", due to poor matrix spike recovery.

**FIELD DUPLICATES**

Samples SB211B and SB211X constitute a field duplicate pair. Results for aluminum, iron, manganese, nickel, potassium, sodium and zinc exceeded the 50% RPD field duplicate quality control criteria for soils. Positive results for these analytes are qualified as estimated, "J".

**LABORATORY CONTROL SAMPLE**

The Percent Recovery (%R) for cyanide (63.7%) was below the 80% quality control limit. No further qualifications were made as all non-detects for cyanide were previously qualified as estimated based on poor matrix spike recovery.

TINKER AIR FORCE BASE
CASE # TAFB1, SDG TAFB8

TABLE 1 - RECOMMENDATION SUMMARY

| | | | |
|---|---|---|---|
| Aluminum | $J^5$ | Magnesium | $A^1$ |
| Antimony | $A^1$, $R^1$ | Manganese | $J^1$, $J^5$ |
| Arsenic | $J^2$ | Mercury | |
| Barium | $J^1$, $J^4$ | Nickel | $A^1$, $J^5$ |
| Beryllium | $A^1$ | Potassium | $A^1$, $J^5$ |
| Cadmium | | Selenium | $J^2$ |
| Calcium | $A^1$ | Silver | $J^2$ |
| Chromium | $A^1$, $J^2$, $J^4$ | Sodium | $J^5$ |
| Cobalt | | Thallium | $J^2$ |
| Copper | | Vanadium | |
| Iron | $J^5$ | Zinc | $A^1$, $J^3$, $J^4$ , $J^5$ |
| Lead | $J^1$ | Cyanide | $J^2$, $J^6$ |

If the field is left blank, the qualifier is A - Accept all data.

$A^1$ - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

$J^1$ - Estimate "J" positive results because matrix spike recovery was > 125%.

$J^2$ - Estimate "J" positive results and "UJ" nondetects because matrix spike recovery was < 75%.

$J^3$ - Estimate "J" positive results because matrix spike recovery was < 30%.

$J^4$ - Estimate "J" positive results because laboratory duplicate RPD was high.

$J^5$ - Estimate "UJ" nondetects because field duplicate RPD was high.

$J^6$ - Estimate "UJ" nondetects because laboratory control sample recovery was low.

$R^1$ - Reject "R" nondetects because matrix spike recovery was < 30%.

KD - MAR17A

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H20852

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB08

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/20/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 7.2 | [redacted] | | P |
| 7440-36-0 | Antimony | 1.0 | U | [redacted] | P |
| 7440-38-2 | Arsenic | 0.28 | U | [redacted] | F |
| 7440-39-3 | Barium | 3.4 | U | [redacted] | P |
| 7440-41-7 | Beryllium | 0.45 | [redacted] | | P |
| 7440-43-9 | Cadmium | 0.57 | U | | P |
| 7440-70-2 | Calcium | 1.6 | U | | P |
| 7440-47-3 | Chromium | 1.5 | U | [redacted] | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 1.2 | U | | P |
| 7439-89-6 | Iron | 3.1 | [redacted] | | P |
| 7439-92-1 | Lead | 0.14 | U | [redacted] | F |
| 7439-95-4 | Magnesium | 113 | [redacted] | | A |
| 7439-96-5 | Manganese | 0.73 | U | [redacted] | P |
| 7439-97-6 | Mercury | 0.05U | [redacted] | | CV |
| 7440-02-0 | Nickel | 2.2 | [redacted] | | P |
| 7440-09-7 | Potassium | 33.3 | [redacted] | | A |
| 7782-49-2 | Selenium | 0.39 | U | [redacted] | F |
| 7440-22-4 | Silver | 1.5 | U | [redacted] | P |
| 7440-23-5 | Sodium | 85.1 | U | | A |
| 7440-28-0 | Thallium | 0.26 | U | [redacted] | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 12.3 | [redacted] | | P |
| | Cyanide | 0.22 | U | [redacted] | C |

Color Before: COLORLESS Clarity Before: CLEAR Texture: WATER

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-RB-MAR17A

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): ~~MG/KG~~ ug/L - see case narrative

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | 20.9 | U | 20.9 | U | 40.000 | B | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | 5.3 | U | 5.300 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.400 | U | F |
| Barium | 17.3 | U | 17.3 | U | 17.3 | U | 17.3 | U | 17.300 | U | P |
| Beryllium | 2.2 | B | 2.4 | B | 2.5 | B | 2.2 | B | 2.400 | B | P |
| Cadmium | 2.9 | U | 2.9 | U | 2.9 | U | 2.9 | U | 3.200 | B | P |
| Calcium | 78.0 | B | 85.0 | B | 79.0 | B | 92.0 | B | 20.000 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | 7.6 | U | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | 6.0 | U | 6.0 | U | 6.000 | U | P |
| Copper | 6.1 | U | 6.1 | U | 6.1 | U | 6.1 | U | 6.100 | U | P |
| Iron | 4.4 | U | 11.0 | B | 19.0 | B | 9.0 | B | 13.000 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.700 | U | F |
| Magnesium | 600.0 | B | 760.0 | B | 640.0 | B | 740.0 | B | 680.000 | B | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.700 | U | P |
| Mercury | 0.1 | U | 0.1 | U | 0.1 | U | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | 9.8 | U | 9.800 | U | P |
| Potassium | 80.3 | U | 140.0 | B | 160.0 | B | 180.0 | B | 80.300 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.000 | U | F |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | 7.4 | U | 7.400 | U | P |
| Sodium | -780.0 | B | -560.0 | B | -1040.0 | B | 435.1 | U | 435.100 | U | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.300 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | 6.5 | U | 6.5 | U | 6.500 | U | P |
| Zinc | 2.3 | U | 2.3 | U | 2.3 | U | 2.3 | U | 5.000 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | 9.1 | U | | | 9.100 | U | C |

6
DUPLICATES

EPA SAMPLE NO.
H20904D

Lab Name: NUS CORPORATION  Contract: TAFB

Lab Code:  Case No.: TAFB1  SAS No.:  SDG No.: TAFB0E

Matrix (soil/water): SOIL  Level (low/med): LOW

% Solids for Sample: 84.0  % Solids for Duplicate: 84.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit | Sample (S) | C | Duplicate (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 22537.9460 | | 18647.1240 | | 18.9 | | P |
| Antimony | 14.2 | 1.2550 | U | 1.2545 | U | | | P |
| Arsenic | 2.4 | 3.1397 | | 6.1941 | | 65.4 | * | P |
| Barium | | 488.1012 | | 1756.5412 | | 113.0 | * | P |
| Beryllium | 1.2 | 1.4681 | | 1.2072 | | 19.5 | | P |
| Cadmium | 1.2 | 0.6867 | U | 0.6864 | U | | | P |
| Calcium | 1184.0 | 2167.8388 | | 2001.9977 | | 8.0 | | P |
| Chromium | | 32.0381 | | 21.8236 | | 37.9 | * | P |
| Cobalt | 11.8 | 7.2222 | B | 5.8701 | B | 20.7 | | P |
| Copper | 5.9 | 8.9745 | | 9.0892 | | 1.3 | | P |
| Iron | | 23892.4010 | | 21194.0030 | | 12.0 | | P |
| Lead | | 12.1810 | | 8.7947 | | 32.3 | * | P |
| Magnesium | 1184.0 | 3204.5180 | | 2787.8375 | | 13.9 | | A |
| Manganese | | 420.6705 | | 510.1066 | | 19.2 | | P |
| Mercury | 0.1 | 0.0567 | U | 0.0577 | U | | | CV |
| Nickel | 9.5 | 17.3096 | | 13.5392 | | 24.4 | | P |
| Potassium | 1184.0 | 2206.9096 | | 1678.1939 | | 27.2 | | A |
| Selenium | 1.2 | 0.4721 | U | 0.4728 | U | | | F |
| Silver | 2.4 | 1.7469 | U | 1.7495 | U | | | P |
| Sodium | 1184.0 | 511.4726 | B | 217.7628 | B | 80.6 | | A |
| Thallium | 2.4 | 0.3069 | U | 0.3073 | U | | | F |
| Vanadium | 11.8 | 38.9051 | | 29.3033 | | 28.2 | | P |
| Zinc | | 122.2275 | | 38.5026 | | 104.2 | * | P |
| Cyanide | 0.3 | 0.2543 | U | 0.2690 | U | | | C |

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-6-0-45

**TO:** JAMES WEDEKIND

**DATE:** JUNE 30, 1990

**FROM:** TOM SNARE (DAS)

**COPIES:** D.A. SCHEIB

**SUBJECT:** ORGANIC DATA VALIDATION - VOA/BNA
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB9

**SAMPLES:**

Soil: T-SU-

| | | | |
|---|---|---|---|
| SB217A | SB216C | SB217C | SB220C |
| SB215C | SB216X | SB218A | |
| SB216A | SB217A | SB220A | |
| SB216B | SB217B | SB220B | |

Soil: T-GW-

| | | | |
|---|---|---|---|
| SB214A | SB215A | SB215X | SB217A |

Soil: T-

| | |
|---|---|
| TBMAR20A | RBMAR20A |
| TBMAR21A | |

NUS Laboratories analyzed 17 soil samples and 1 rinsate blank for Target Compound List (TCL) volatile and semivolatile compounds. In addition, 2 trip blank samples were analyzed for TCL volatile compounds only. Two field duplicate pairs were included with this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were validated according to the following parameters:

- Holding times
- GC/MS tuning and mass calibration
- Laboratory blank analyses
- Initial and continuing calibrations
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results

(continued)

quality control limit. Non-detects for 2-butanone are considered to be unreliable and have been rejected, qualified "R". Positive results for 2-butanone in affected samples are qualified as estimated, "J".

Initial calibration Percent Relative Standard Deviations (%RSDs) for chloroethane and carbon disulfide exceeded 50%. Non-detects for these compounds in affected samples are qualified as estimated, "UJ".

Some initial calibration %RSDs for acetone, cis-1,3-dichloropropene and chloroethane failed to meet the 30% quality control criteria. Affected positive results for acetone, not previously qualified on the basis of blank contamination, are qualified as estimated, "J". No qualifications were made for cis-1,3-dichloropropene and chloroethane as no positive results were reported for these compounds.

Samples T-SU-SB216C and T-SU-SB216X constitute a field duplicate pair. Results for acetone and 2-butanone exceeded the 50% Relative Percent Difference (RPD) quality control limit for soils. No actions were taken as the non-compliance for action is attributable to the influence of blank contamination, and the result for tetrachloroethene is less than the CRQL.

Samples T-GW-SB215A and T-GW-SB215X also constitute a field duplicate pair. Results for 1,1,1-trichloroethane, trichloroethene and tetrachloroethene met field duplicate precision quality control criteria.

Positive results below the CRQL are qualified as estimated, "J".

No qualifications were made for Tentatively Identified Compounds (TICs) as no TICs were detected in trip, rinsate and laboratory method blanks analyzed with this sample set.

Semivolatile Fraction

All samples were determined to be free of significant environmental contamination. Concentrations below the CRQL were reported for di-n-octyl phthalate (in sample T-SU-SB217B), fluroanthene (in sample T-SU-SB-216C) and di-n-butylphthalate (in samples T-GW-SB214A and T-GW-SB215A.)

The initial calibration %RSD for 3,3'-dichlorobenzidine exceeded 50%. No qualifications were made since no positive results were reported for this compound.

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB9

TABLE I - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-SU-SB214A | $A^1$, $J^3$, $R^1$ | |
| T-SU-SB215C | $J^3$, $R^1$ | |
| T-SU-SB216A | $J^{2,3,4}$ | |
| T-SU-SB216B | $A^{1,2,3}$, $J^{1,3}$ | |
| T-SU-SB216C | $J^3$ | $J^5$ |
| T-SU-SB216X | $J^{3,5}$ | |
| T-SU-SB217A | $J^{3,5}$ | |
| T-SU-SB217B | $J^3$ | $J^5$ |
| T-SU-SB217C | $J^3$ | |
| T-SU-SB218A | $J^3$ | |
| T-SU-SB220A | $J^3$ | |
| T-SU-SB220B | $J^3$ | |
| T-SU-SB220C | $A^{2,3,4}$ | |
| T-GW-SB214A | $R^1$ | $J^5$ |
| T-GW-SB215A | $A^{1,4}$, $J^6$, $R^1$ | $J^5$ |
| T-GW-SB215X | $A^4$, $J^{3,4,6}$ | |
| T-GW-SB217A | $A^{2,3,4}$, $J^{1,3,5}$ | |

$A^1$ - Accept data but change positive result for acetone to a revised detection limit due to blank contamination.

$A^2$ - Accept data but change positive result for methylene chloride to a revised detection limit due to blank contamination.

$A^3$ - Accept data but change positive result for benzene to a revised detection limit due to blank contamination.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR20A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121019

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03229004

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. ____ Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | 0 | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 17 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBMAP21A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121024

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03229003

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. ____ Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 6 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR20A

Lab Name: NUS HOUSTON Contract: 3M480_BC0

Lab Code: NUS_LAB Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121019

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04119001

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 03/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N pH: 3.6 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 1600 | U |
| 83-32-9 | Acenaphthene | 330 | U |
| 51-28-5 | 2,4-Dinitrophenol | 1600 | U |
| 100-02-7 | 4-Nitrophenol | 1600 | U |
| 132-64-9 | Dibenzofuran | 330 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 330 | U |
| 84-66-2 | Diethylphthalate | 330 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330 | U |
| 86-73-7 | Fluorene | 330 | U |
| 100-01-6 | 4-Nitroaniline | 1600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 1600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 330 | U |
| 118-74-1 | Hexachlorobenzene | 330 | U |
| 87-86-5 | Pentachlorophenol | 1600 | U |
| 85-01-8 | Phenanthrene | 330 | U |
| 120-12-7 | Anthracene | 330 | U |
| 84-74-2 | Di-n-Butylphthalate | 330 | U |
| 206-44-0 | Fluoranthene | 330 | U |
| 129-00-0 | Pyrene | 330 | U |
| 85-68-7 | Butylbenzylphthalate | 330 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 660 | U |
| 56-55-3 | Benzo(a)Anthracene | 330 | U |
| 218-01-9 | Chrysene | 330 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 330 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 330 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 330 | U |
| 50-32-8 | Benzo(a)Pyrene | 330 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 330 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 330 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 330 | U |

(1) - Cannot be separated from Diphenylamine

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Instrument ID: 4500B Calibration Date(s): 03/20/90 03/20/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT03209001 RRF50 = 3VT03209002
RRF100= 3VT03209003 RRF150= 3VT03209004 RRF200= 3VT03209005

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 1.983 | 2.124 | 1.878 | 1.677 | 1.670 | 1.866 | 10.5# |
| Bromomethane | 0.627 | 0.563 | 0.513 | 0.461 | 0.470 | 0.527 | 13.1 |
| Vinyl Chloride * | 1.028 | 0.822 | 0.614 | 0.559 | 0.563 | 0.717 | 28.5* |
| Chloroethane | 0.662 | 0.454 | 0.335 | 0.190 | 0.149 | 0.358 | 58.3 |
| Methylene Chloride | 1.823 | 1.718 | 1.661 | 1.459 | 2.027 | 1.738 | 12.0 |
| Acetone | 2.399 | 2.403 | 2.147 | 1.831 | 1.763 | 2.109 | 14.4 |
| Carbon Disulfide | 1.847 | 1.748 | 1.528 | 1.234 | 4.814 | 2.234 | 65.4 |
| 1,1-Dichloroethene * | 1.291 | 1.218 | 1.157 | 1.053 | 1.747 | 1.293 | 20.8* |
| 1,1-Dichloroethane # | 3.274 | 3.231 | 3.290 | 3.017 | 3.736 | 3.310 | 7.9# |
| 1,2-Dichloroethene (total) | 1.352 | 1.294 | 1.280 | 1.129 | 1.905 | 1.392 | 21.4 |
| Chloroform * | 2.923 | 2.816 | 2.770 | 2.511 | 2.877 | 2.779 | 5.8* |
| 1,2-Dichloroethane | 1.604 | 1.576 | 1.494 | 1.343 | 1.626 | 1.529 | 7.5 |
| 2-Butanone | 0.153 | 0.156 | 0.148 | 0.131 | 0.129 | 0.143 | 8.8 |
| 1,1,1-Trichloroethane | 0.346 | 0.334 | 0.324 | 0.311 | 0.373 | 0.338 | 7.0 |
| Carbon Tetrachloride | 0.255 | 0.256 | 0.247 | 0.240 | 0.302 | 0.260 | 9.4 |
| Vinyl Acetate | 0.597 | 0.595 | 0.601 | 0.572 | 0.684 | 0.610 | 7.0 |
| Bromodichloromethane | 0.514 | 0.510 | 0.502 | 0.494 | 0.538 | 0.512 | 3.2 |
| 1,2-Dichloropropane * | 0.475 | 0.460 | 0.469 | 0.445 | 0.516 | 0.473 | 5.6* |
| cis-1,3-Dichloropropene | 0.724 | 0.716 | 0.734 | 0.691 | 0.780 | 0.729 | 4.5 |
| Trichloroethene | 0.325 | 0.316 | 0.322 | 0.298 | 0.381 | 0.328 | 9.5 |
| Dibromochloromethane | 0.433 | 0.435 | 0.450 | 0.410 | 0.430 | 0.432 | 3.3 |
| 1,1,2-Trichloroethane | 0.381 | 0.377 | 0.384 | 0.351 | 0.369 | 0.372 | 3.6 |
| Benzene | 1.282 | 1.178 | 1.150 | 0.991 | 1.101 | 1.140 | 9.3 |
| trans-1,3-Dichloropropene | 0.344 | 0.336 | 0.342 | 0.317 | 0.359 | 0.340 | 4.5 |
| Bromoform # | 0.347 | 0.353 | 0.352 | 0.342 | 0.353 | 0.349 | 1.4# |
| 4-Methyl-2-Pentanone | 1.286 | 1.289 | 1.316 | 1.249 | 1.172 | 1.262 | 4.4 |
| 2-Hexanone | 1.117 | 1.127 | 1.124 | 1.054 | 1.044 | 1.093 | 3.7 |
| Tetrachloroethene | 0.297 | 0.286 | 0.280 | 0.261 | 0.344 | 0.294 | 10.6 |
| 1,1,2,2-Tetrachloroethane # | 0.998 | 0.975 | 0.990 | 0.952 | 0.968 | 0.977 | 1.9# |
| Toluene * | 0.899 | 0.862 | 0.854 | 0.797 | 0.980 | 0.878 | 7.7* |
| Chlorobenzene # | 1.042 | 1.008 | 1.004 | 0.955 | 1.096 | 1.021 | 5.1# |
| Ethylbenzene * | 0.510 | 0.494 | 0.486 | 0.463 | 0.551 | 0.501 | 6.5* |
| Styrene | 1.056 | 0.998 | 0.994 | 0.958 | 1.112 | 1.024 | 5.9 |
| Xylene (total) | 0.538 | 0.506 | 0.495 | 0.488 | 0.535 | 0.512 | 4.5 |
| Toluene-d8 | 3.218 | 1.283 | 1.278 | 1.198 | 1.101 | 1.616 | 55.6 |
| BFB | 1.580 | 0.624 | 0.630 | 0.601 | 0.608 | 0.809 | 53.3 |
| 1,2-Dichloroethane-d4 | 3.746 | 1.535 | 1.468 | 1.345 | 1.352 | 1.889 | 55.1 |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Instrument ID: INCOSF Calibration Date(s): 03/13/90 03/13/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 6VT03149003 RRF50 = 6VT03149004
RRF100= 6VT03149005 RRF150= 6VT03149006 RRF200= 6VT03149007

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 0.826 | 0.829 | 0.797 | 0.759 | 0.572 | 0.757 | 14.1# |
| Bromomethane | 1.267 | 1.300 | 1.098 | 0.890 | 0.688 | 1.049 | 24.7 |
| Vinyl Chloride * | 0.995 | 1.085 | 1.021 | 0.941 | 0.691 | 0.947 | 16.1* |
| Chloroethane | 0.774 | 0.823 | 0.759 | 0.720 | 0.569 | 0.729 | 13.3 |
| Methylene Chloride | 1.744 | 1.543 | 1.417 | 1.312 | 1.297 | 1.463 | 12.7 |
| Acetone | 0.418 | 0.243 | 0.384 | 0.292 | 0.197 | 0.307 | 30.3 |
| Carbon Disulfide | 1.554 | 1.712 | 1.713 | 1.698 | 1.736 | 1.683 | 4.3 |
| 1,1-Dichloroethene * | 1.352 | 1.360 | 1.296 | 1.184 | 1.144 | 1.267 | 7.8* |
| 1,1-Dichloroethane # | 3.053 | 3.049 | 2.801 | 2.637 | 2.511 | 2.810 | 8.6# |
| 1,2-Dichloroethene (total) | 1.421 | 1.442 | 1.342 | 1.274 | 1.224 | 1.341 | 7.0 |
| Chloroform * | 3.637 | 3.385 | 3.119 | 2.940 | 2.766 | 3.169 | 11.0* |
| 1,2-Dichloroethane | 2.213 | 2.046 | 1.901 | 1.753 | 1.658 | 1.914 | 11.6 |
| 2-Butanone | 0.021 | 0.024 | 0.039 | 0.031 | 0.023 | 0.028 | 26.4 |
| 1,1,1-Trichloroethane | 0.687 | 0.666 | 0.646 | 0.598 | 0.567 | 0.633 | 7.8 |
| Carbon Tetrachloride | 0.541 | 0.562 | 0.567 | 0.528 | 0.510 | 0.542 | 4.4 |
| Vinyl Acetate | 0.323 | 0.348 | 0.280 | 0.283 | 0.311 | 0.309 | 9.2 |
| Bromodichloromethane | 0.714 | 0.769 | 0.749 | 0.691 | 0.655 | 0.716 | 8.3 |
| 1,2-Dichloropropane * | 0.480 | 0.475 | 0.448 | 0.408 | 0.390 | 0.440 | 9.1* |
| cis-1,3-Dichloropropene | 0.344 | 0.383 | 0.380 | 0.353 | 0.333 | 0.359 | 6.2 |
| Trichloroethene | 0.473 | 0.472 | 0.464 | 0.426 | 0.399 | 0.447 | 7.4 |
| Dibromochloromethane | 0.524 | 0.654 | 0.683 | 0.645 | 0.617 | 0.625 | 9.8 |
| 1,1,2-Trichloroethane | 0.461 | 0.442 | 0.408 | 0.372 | 0.347 | 0.406 | 11.7 |
| Benzene | 0.990 | 0.982 | 0.920 | 0.849 | 0.801 | 0.908 | 9.1 |
| trans-1,3-Dichloropropene | 0.723 | 0.767 | 0.738 | 0.700 | 0.660 | 0.718 | 5.6 |
| Bromoform # | 0.317 | 0.473 | 0.534 | 0.513 | 0.491 | 0.466 | 18.5# |
| 4-Methyl-2-Pentanone | 0.419 | 0.381 | 0.381 | 0.333 | 0.321 | 0.367 | 10.9 |
| 2-Hexanone | 0.298 | 0.255 | 0.376 | 0.287 | 0.219 | 0.287 | 20.4 |
| Tetrachloroethene | 0.473 | 0.446 | 0.443 | 0.415 | 0.391 | 0.434 | 7.2 |
| 1,1,2,2-Tetrachloroethane # | 0.739 | 0.713 | 0.690 | 0.643 | 0.623 | 0.682 | 7.1# |
| Toluene * | 0.775 | 0.708 | 0.692 | 0.679 | 0.642 | 0.699 | 7.0* |
| Chlorobenzene # | 1.049 | 1.023 | 0.990 | 0.936 | 0.879 | 0.975 | 7.0# |
| Ethylbenzene * | 0.507 | 0.502 | 0.504 | 0.477 | 0.452 | 0.488 | 4.8* |
| Styrene | 0.981 | 0.968 | 0.979 | 0.913 | 0.861 | 0.940 | 5.6 |
| Xylene (total) | 0.601 | 0.592 | 0.573 | 0.533 | 0.493 | 0.558 | 8.1 |
| Toluene-d8 | 1.321 | 1.133 | 1.031 | 0.987 | 0.929 | 1.080 | 14.3 |
| BFB | 1.101 | 0.924 | 0.858 | 0.801 | 0.757 | 0.888 | 15.1 |
| 1,2-Dichloroethane-d4 | 2.363 | 1.898 | 1.737 | 1.612 | 1.521 | 1.826 | 18.2 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Instrument ID: 4500A Calibration date: 03/22/90 Time: 0946

Lab File ID: 2VT0322$001 Init. Calib. Date(s): 03/19/90 03/19/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.639 | 0.437 | 31.6 | # |
| Bromomethane | | 0.817 | 0.643 | 21.3 | |
| Vinyl Chloride | * | 0.622 | 0.506 | 18.7 | * |
| Chloroethane | | 0.400 | 0.359 | 10.3 | |
| Methylene Chloride | | 0.907 | 1.121 | -23.6 | |
| Acetone | | 0.451 | 0.231 | 48.8 | |
| Carbon Disulfide | | 2.014 | 1.355 | 32.7 | |
| 1,1-Dichloroethene | * | 1.300 | 1.139 | 12.4 | * |
| 1,1-Dichloroethane | # | 2.318 | 2.246 | 3.1 | # |
| 1,2-Dichloroethene (total) | | 1.358 | 1.266 | 6.8 | |
| Chloroform | * | 2.603 | 2.562 | 1.6 | * |
| 1,2-Dichloroethane | | 1.308 | 1.172 | 10.4 | |
| 2-Butanone | | 0.081 | 0.019 | 76.5 | |
| 1,1,1-Trichloroethane | | 0.508 | 0.477 | 6.1 | |
| Carbon Tetrachloride | | 0.477 | 0.446 | 6.5 | |
| Vinyl Acetate | | 0.373 | 0.260 | 30.3 | |
| Bromodichloromethane | | 0.708 | 0.667 | 5.8 | |
| 1,2-Dichloropropane | * | 0.399 | 0.371 | 7.0 | * |
| cis-1,3-Dichloropropene | | 0.591 | 0.689 | -16.6 | |
| Trichloroethene | | 0.459 | 0.428 | 6.8 | |
| Dibromochloromethane | | 0.726 | 0.659 | 9.2 | |
| 1,1,2-Trichloroethane | | 0.404 | 0.339 | 16.1 | |
| Benzene | | 0.895 | 0.792 | 11.5 | |
| trans-1,3-Dichloropropene | | 0.355 | 0.320 | 9.9 | |
| Bromoform | # | 0.673 | 0.505 | 25.0 | # |
| 4-Methyl-2-Pentanone | | 0.634 | 0.294 | 53.6 | |
| 2-Hexanone | | 0.518 | 0.239 | 53.9 | |
| Tetrachloroethene | | 0.486 | 0.430 | 11.5 | |
| 1,1,2,2-Tetrachloroethane | # | 1.036 | 0.660 | 36.3 | # |
| Toluene | * | 0.716 | 0.644 | 10.1 | * |
| Chlorobenzene | # | 1.010 | 0.954 | 5.5 | # |
| Ethylbenzene | * | 0.461 | 0.433 | 6.1 | * |
| Styrene | | 0.915 | 0.852 | 6.9 | |
| Xylene (total) | | 0.486 | 0.193 | 60.3 | |
| Toluene-d8 | | 1.380 | 1.004 | 27.3 | |
| BFB | | 1.072 | 0.738 | 31.2 | |
| 1,2-Dichloroethane-d4 | | 1.578 | 1.159 | 26.6 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Instrument ID: 4500A Calibration date: 03/23/90 Time: 1434

Lab File ID: 2VT03239002 Init. Calib. Date(s): 03/19/90 03/19/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.639 | 0.635 | 0.6 | # |
| Bromomethane | | 0.817 | 0.776 | 5.0 | |
| Vinyl Chloride | * | 0.622 | 0.608 | 2.3 | * |
| Chloroethane | | 0.400 | 0.417 | -4.3 | |
| Methylene Chloride | | 0.907 | 0.876 | 3.4 | |
| Acetone | | 0.451 | 0.496 | -10.0 | |
| Carbon Disulfide | | 2.014 | 2.685 | -33.3 | |
| 1,1-Dichloroethene | * | 1.300 | 1.167 | 10.2 | * |
| 1,1-Dichloroethane | # | 2.318 | 2.115 | 8.8 | # |
| 1,2-Dichloroethene (total) | | 1.358 | 1.255 | 7.6 | |
| Chloroform | * | 2.603 | 2.404 | 7.6 | * |
| 1,2-Dichloroethane | | 1.308 | 1.197 | 8.5 | |
| 2-Butanone | | 0.081 | 0.068 | 16.1 | |
| 1,1,1-Trichloroethane | | 0.508 | 0.519 | -2.2 | |
| Carbon Tetrachloride | | 0.477 | 0.491 | -2.9 | |
| Vinyl Acetate | | 0.373 | 0.675 | -81.0 | |
| Bromodichloromethane | | 0.708 | 0.716 | -1.1 | |
| 1,2-Dichloropropane | * | 0.399 | 0.382 | 4.2 | * |
| cis-1,3-Dichloropropene | | 0.591 | 0.736 | -24.5 | |
| Trichloroethene | | 0.459 | 0.491 | -7.0 | |
| Dibromochloromethane | | 0.726 | 0.742 | -2.2 | |
| 1,1,2-Trichloroethane | | 0.404 | 0.391 | 3.2 | |
| Benzene | | 0.895 | 0.869 | 2.9 | |
| trans-1,3-Dichloropropene | | 0.355 | 0.363 | -2.3 | |
| Bromoform | # | 0.673 | 0.696 | -3.4 | # |
| 4-Methyl-2-Pentanone | | 0.634 | 0.648 | -2.2 | |
| 2-Hexanone | | 0.518 | 0.494 | 4.6 | |
| Tetrachloroethene | | 0.486 | 0.479 | 1.4 | |
| 1,1,2,2-Tetrachloroethane | # | 1.036 | 0.900 | 13.1 | # |
| Toluene | * | 0.716 | 0.666 | 7.0 | * |
| Chlorobenzene | # | 1.010 | 0.947 | 6.2 | # |
| Ethylbenzene | * | 0.461 | 0.425 | 7.8 | * |
| Styrene | | 0.915 | 0.862 | 5.8 | |
| Xylene (total) | | 0.486 | 0.270 | 44.4 | |
| Toluene-d8 | | 1.380 | 0.977 | 29.2 | |
| BFB | | 1.072 | 0.752 | 29.9 | |
| 1,2-Dichloroethane-d4 | | 1.578 | 1.134 | 28.1 | |

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Instrument ID: 4500B Calibration date: 03/23/90 Time: 1053

Lab File ID: 3VT03239001 Init. Calib. Date(s): 03/20/90 03/20/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.866 | 1.716 | 8.0 | # |
| Bromomethane | | 0.527 | 0.530 | -0.6 | |
| Vinyl Chloride | * | 0.717 | 0.896 | -25.0 | * |
| Chloroethane | | 0.358 | 0.433 | -21.0 | |
| Methylene Chloride | | 1.738 | 1.991 | -14.6 | |
| Acetone | | 2.109 | 1.701 | 19.4 | |
| Carbon Disulfide | | 2.234 | 5.462 | -99.9 | |
| 1,1-Dichloroethene | * | 1.293 | 1.540 | -19.1 | * |
| 1,1-Dichloroethane | # | 3.310 | 3.594 | -8.6 | # |
| 1,2-Dichloroethene (total) | | 1.392 | 1.797 | -29.1 | |
| Chloroform | * | 2.779 | 2.938 | -5.7 | * |
| 1,2-Dichloroethane | | 1.529 | 1.684 | -10.1 | |
| 2-Butanone | | 0.143 | 0.142 | 0.7 | |
| 1,1,1-Trichloroethane | | 0.338 | 0.361 | -6.8 | |
| Carbon Tetrachloride | | 0.260 | 0.289 | -11.2 | |
| Vinyl Acetate | | 0.610 | 1.279 | -99.9 | |
| Bromodichloromethane | | 0.512 | 0.533 | -4.1 | |
| 1,2-Dichloropropane | * | 0.473 | 0.510 | -7.8 | * |
| cis-1,3-Dichloropropene | | 0.729 | 0.803 | -10.2 | |
| Trichloroethene | | 0.328 | 0.383 | -16.8 | |
| Dibromochloromethane | | 0.432 | 0.452 | -4.6 | |
| 1,1,2-Trichloroethane | | 0.372 | 0.389 | -4.6 | |
| Benzene | | 1.140 | 1.411 | -23.8 | |
| trans-1,3-Dichloropropene | | 0.340 | 0.366 | -7.6 | |
| Bromoform | # | 0.349 | 0.346 | 0.9 | # |
| 4-Methyl-2-Pentanone | | 1.262 | 1.195 | 5.3 | |
| 2-Hexanone | | 1.093 | 0.987 | 9.7 | |
| Tetrachloroethene | | 0.294 | 0.336 | -14.3 | |
| 1,1,2,2-Tetrachloroethane | # | 0.977 | 0.932 | 4.6 | # |
| Toluene | * | 0.878 | 0.948 | -8.0 | * |
| Chlorobenzene | # | 1.021 | 1.008 | 1.3 | # |
| Ethylbenzene | * | 0.501 | 0.487 | 2.8 | * |
| Styrene | | 1.024 | 0.993 | 3.0 | |
| Xylene (total) | | 0.512 | 0.592 | -15.6 | |
| Toluene-d8 | | 1.616 | 1.220 | 24.5 | |
| BFB | | 0.809 | 0.575 | 28.9 | |
| 1,2-Dichloroethane-d4 | | 1.889 | 1.466 | 22.4 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Instrument ID: INCOSF Calibration date: 03/21/90 Time: 2222

Lab File ID: 6VT03219003 Init. Calib. Date(s): 03/13/90 03/13/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.757 | 0.741 | 2.1 | # |
| Bromomethane | 1.049 | 1.212 | -15.5 | |
| Vinyl Chloride | 0.947 | 1.020 | -7.7 | * |
| Chloroethane | 0.729 | 0.784 | -7.5 | |
| Methylene Chloride | 1.463 | 1.607 | -9.8 | |
| Acetone | 0.307 | 0.242 | 21.2 | |
| Carbon Disulfide | 1.683 | 1.497 | 11.1 | |
| 1,1-Dichloroethene | 1.267 | 1.431 | -12.9 | * |
| 1,1-Dichloroethane | 2.810 | 2.917 | -3.8 | # |
| 1,2-Dichloroethene (total) | 1.341 | 1.472 | -9.8 | |
| Chloroform | 3.169 | 3.507 | -10.7 | * |
| 1,2-Dichloroethane | 1.914 | 1.946 | -1.7 | |
| 2-Butanone | 0.028 | 0.026 | 7.1 | |
| 1,1,1-Trichloroethane | 0.633 | 0.665 | -5.1 | |
| Carbon Tetrachloride | 0.542 | 0.568 | -4.4 | |
| Vinyl Acetate | 0.309 | 0.306 | 1.0 | |
| Bromodichloromethane | 0.716 | 0.748 | -4.2 | |
| 1,2-Dichloropropane | 0.440 | 0.461 | -4.8 | * |
| cis-1,3-Dichloropropene | 0.359 | 0.355 | 1.1 | |
| Trichloroethene | 0.447 | 0.506 | -13.2 | |
| Dibromochloromethane | 0.625 | 0.661 | -5.8 | |
| 1,1,2-Trichloroethane | 0.406 | 0.450 | -10.8 | |
| Benzene | 0.908 | 0.978 | -7.7 | |
| trans-1,3-Dichloropropene | 0.718 | 0.730 | -1.7 | |
| Bromoform | 0.466 | 0.500 | -7.3 | # |
| 4-Methyl-2-Pentanone | 0.367 | 0.355 | 3.3 | |
| 2-Hexanone | 0.287 | 0.248 | 13.6 | |
| Tetrachloroethene | 0.434 | 0.511 | -17.7 | |
| 1,1,2,2-Tetrachloroethane | 0.682 | 0.703 | -3.1 | # |
| Toluene | 0.699 | 0.778 | -11.3 | * |
| Chlorobenzene | 0.975 | 1.104 | -13.2 | # |
| Ethylbenzene | 0.488 | 0.547 | -12.1 | * |
| Styrene | 0.940 | 1.050 | -11.7 | |
| Xylene (total) | 0.558 | 0.550 | 1.4 | |
| Toluene-d8 | 1.080 | 1.158 | -7.2 | |
| BFB | 0.888 | 0.961 | -8.2 | |
| 1,2-Dichloroethane-d4 | 1.826 | 1.798 | 1.5 | |

3B

# SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix Spike - EPA Sample No.: TSUSB214A Level:(low/med) LOW

| COMPOUND | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 60.2 | 0 | 66.7 | 111 | 59-172 |
| Trichloroethene | 60.2 | 0 | 60.2 | 100 | 62-137 |
| Benzene | 60.2 | 0 | 64.8 | 108 | 66-142 |
| Toluene | 60.2 | 0 | 56.1 | 93 | 59-139 |
| Chlorobenzene | 60.2 | 0 | 55.2 | 92 | 60-133 |

| COMPOUND | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 60.2 | 70.1 | 116 | -4 | 22 | 59-172 |
| Trichloroethene | 60.2 | 65.3 | 109 | -9 | 24 | 62-137 |
| Benzene | 60.2 | 70.6 | 117 | -8 | 21 | 66-142 |
| Toluene | 60.2 | 61.7 | 103 | -10 | 21 | 59-139 |
| Chlorobenzene | 60.2 | 61.2 | 102 | -10 | 21 | 60-133 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: CLP,0,TAFB,T-SU-SB214A,L,S,H120908,V,EPA,,4500A
5ML/45C(4MIN)-220C 8C/MIN

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB214AMS
~~TSUSB215AMS~~

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H120909MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VP0329005

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. 17 Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 12 | U |
| 74-83-9 | Bromomethane | 12 | U |
| 75-01-4 | Vinyl Chloride | 12 | U |
| 75-00-3 | Chloroethane | 12 | U |
| 75-09-2 | Methylene Chloride | 6 | U |
| 67-64-1 | Acetone | 38 | |
| 75-15-0 | Carbon Disulfide | 6 | U |
| 75-35-4 | 1,1-Dichloroethene | 6 | U |
| 75-34-3 | 1,1-Dichloroethane | 6 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 6 | U |
| 67-66-3 | Chloroform | 6 | U |
| 107-06-2 | 1,2-Dichloroethane | 6 | U |
| 78-93-3 | 2-Butanone | 12 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 6 | U |
| 56-23-5 | Carbon Tetrachloride | 6 | U |
| 108-05-4 | Vinyl Acetate | 12 | U |
| 75-27-4 | Bromodichloromethane | 6 | U |
| 78-87-5 | 1,2-Dichloropropane | 6 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 6 | U |
| 79-01-6 | Trichloroethene | 6 | U |
| 124-48-1 | Dibromochloromethane | 6 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 6 | U |
| 71-43-2 | Benzene | 6 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 6 | U |
| 75-25-2 | Bromoform | 6 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 12 | U |
| 591-78-6 | 2-Hexanone | 12 | U |
| 127-18-4 | Tetrachloroethene | 5 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 6 | U |
| 108-88-3 | Toluene | 6 | U |
| 108-90-7 | Chlorobenzene | 6 | U |
| 100-41-4 | Ethylbenzene | 6 | U |
| 100-42-5 | Styrene | 6 | U |
| 1330-20-7 | Xylene (total) | 6 | U |

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration Date(s): 03/28/90 03/29/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 5BT03289004 RRF50 = 5BT03289003
RRF80 = 5BT03289005 RRF120= 5BT03289006 RRF160= 5BT03289003

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Dibenzofuran | 1.520 | 1.556 | 1.463 | 1.357 | 1.095 | 1.398 | 13.3 |
| 2,4-Dinitrotoluene | 0.276 | 0.320 | 0.316 | 0.318 | 0.325 | 0.311 | 6.4 |
| Diethylphthalate | 1.023 | 1.147 | 1.135 | 1.123 | 0.983 | 1.092 | 6.9 |
| 4-Chlorophenyl-phenylether | 0.526 | 0.572 | 0.532 | 0.523 | 0.429 | 0.516 | 10.2 |
| Fluorene | 1.243 | 1.273 | 1.162 | 1.085 | 0.825 | 1.118 | 16.0 |
| 4-Nitroaniline | | 0.207 | 0.198 | 0.259 | 0.254 | 0.230 | 13.7 |
| 4,6-Dinitro-2-Methylphenol | | 0.117 | 0.110 | 0.122 | 0.131 | 0.120 | 7.4 |
| N-Nitrosodiphenylamine (1) * | 0.488 | 0.484 | 0.468 | 0.469 | 0.410 | 0.463 | 6.6* |
| 4-Bromophenyl-phenylether | 0.198 | 0.231 | 0.225 | 0.233 | 0.213 | 0.220 | 6.6 |
| Hexachlorobenzene | 0.219 | 0.240 | 0.235 | 0.242 | 0.217 | 0.231 | 5.1 |
| Pentachlorophenol * | | 0.140 | 0.132 | 0.145 | 0.142 | 0.140 | 4.0* |
| Phenanthrene | 1.082 | 1.086 | 1.027 | 0.964 | 0.741 | 0.980 | 14.5 |
| Anthracene | 1.093 | 1.090 | 1.027 | 0.962 | 0.743 | 0.985 | 14.9 |
| Di-n-Butylphthalate | 1.074 | 1.148 | 1.124 | 1.075 | 0.827 | 1.050 | 12.2 |
| Fluoranthene * | 0.984 | 0.968 | 0.849 | 0.946 | 0.770 | 0.903 | 10.1* |
| Pyrene | 1.644 | 1.909 | 2.166 | 1.708 | 1.166 | 1.719 | 21.5 |
| Butylbenzylphthalate | 0.563 | 0.678 | 0.720 | 0.736 | 0.625 | 0.664 | 10.7 |
| 3,3'-Dichlorobenzidine | 0.246 | 0.222 | 0.212 | 0.363 | 0.432 | 0.295 | 33.7 |
| Benzo(a)Anthracene | 1.143 | 1.284 | 1.280 | 1.289 | 1.069 | 1.213 | 9.3 |
| Chrysene | 1.002 | 1.149 | 1.152 | 1.187 | 0.876 | 1.073 | 12.2 |
| bis(2-Ethylhexyl)Phthalate | 0.704 | 0.858 | 0.876 | 0.935 | 0.790 | 0.833 | 10.5 |
| Di-n-Octyl Phthalate * | 1.168 | 1.439 | 1.337 | 1.491 | 1.304 | 1.348 | 9.3* |
| Benzo(b)Fluoranthene | 1.186 | 1.335 | 1.403 | 1.436 | 1.212 | 1.314 | 8.5 |
| Benzo(k)Fluoranthene | 1.145 | 1.234 | 1.325 | 1.333 | 1.096 | 1.227 | 8.6 |
| Benzo(a)Pyrene * | 1.054 | 1.221 | 1.235 | 1.338 | 1.153 | 1.200 | 8.9* |
| Indeno(1,2,3-cd)Pyrene | 1.030 | 1.113 | 1.087 | 1.185 | 1.151 | 1.113 | 5.4 |
| Dibenz(a,h)Anthracene | 0.792 | 0.939 | 0.940 | 1.009 | 0.912 | 0.918 | 8.6 |
| Benzo(g,h,i)Perylene | 0.854 | 0.950 | 1.003 | 0.952 | 0.848 | 0.921 | 7.4 |
| Nitrobenzene-d5 | 0.431 | 0.449 | 0.423 | 0.430 | 0.408 | 0.428 | 3.5 |
| 2-Fluorobiphenyl | 1.240 | 1.195 | 1.168 | 1.093 | 0.873 | 1.114 | 13.0 |
| Terphenyl-d14 | 0.945 | 1.144 | 1.301 | 1.110 | 0.844 | 1.069 | 16.7 |
| Phenol-d5 | 1.693 | 1.767 | 1.724 | 1.730 | 1.515 | 1.686 | 5.9 |
| 2-Fluorophenyl | 1.293 | 1.474 | 1.418 | 1.416 | 1.305 | 1.381 | 5.7 |
| 2,4,6-Tribromophenol | 0.111 | 0.154 | 0.151 | 0.162 | 0.159 | 0.147 | 14.1 |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration date: 04/09/90 Time: 0835

Lab File ID: 5BT04109001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.555 | -11.2 | |
| 2,4-Dinitrotoluene | 0.311 | 0.320 | -2.9 | |
| Diethylphthalate | 1.082 | 1.139 | -5.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.599 | -16.1 | |
| Fluorene | 1.118 | 1.157 | -3.5 | |
| 4-Nitroaniline | 0.230 | 0.159 | 30.9 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.141 | -17.5 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.540 | -16.6 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.263 | -19.6 | |
| Hexachlorobenzene | 0.231 | 0.267 | -15.6 | |
| Pentachlorophenol | * 0.140 | 0.161 | -15.0 | * |
| Phenanthrene | 0.980 | 1.046 | -6.7 | |
| Anthracene | 0.985 | 1.034 | -5.0 | |
| Di-n-Butylphthalate | 1.050 | 1.092 | -4.0 | |
| Fluoranthene | * 0.903 | 0.884 | 2.1 | * |
| Pyrene | 1.719 | 1.839 | -7.0 | |
| Butylbenzylphthalate | 0.664 | 0.596 | 10.2 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.223 | 24.4 | |
| Benzo(a)Anthracene | 1.213 | 1.224 | -0.9 | |
| Chrysene | 1.073 | 1.113 | -3.7 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.744 | 10.7 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.149 | 14.8 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.275 | 3.0 | |
| Benzo(k)Fluoranthene | 1.227 | 1.203 | 2.0 | |
| Benzo(a)Pyrene | * 1.200 | 1.181 | 1.6 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.010 | 9.3 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.708 | 22.9 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.935 | -1.5 | |
| Nitrobenzene-d5 | 0.428 | 0.226 | 47.2 | |
| 2-Fluorobiphenyl | 1.114 | 0.619 | 44.4 | |
| Terphenyl-d14 | 1.069 | 0.590 | 44.8 | |
| Phenol-d5 | 1.686 | 0.468 | 72.2 | |
| 2-Fluorophenyl | 1.381 | 0.374 | 72.9 | |
| 2,4,6-Tribromophenol | 0.147 | 0.042 | 71.4 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration date: 04/10/90 Time: 1051

Lab File ID: 5BT04109003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.551 | -10.9 | |
| 2,4-Dinitrotoluene | 0.311 | 0.325 | -4.5 | |
| Diethylphthalate | 1.082 | 1.166 | -7.8 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.603 | -16.9 | |
| Fluorene | 1.118 | 1.155 | -3.3 | |
| 4-Nitroaniline | 0.230 | 0.163 | 29.1 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.101 | 15.8 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.553 | -19.4 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.270 | -22.7 | |
| Hexachlorobenzene | 0.231 | 0.275 | -19.1 | |
| Pentachlorophenol | * 0.140 | 0.140 | 0.0 | * |
| Phenanthrene | 0.980 | 1.026 | -4.7 | |
| Anthracene | 0.985 | 1.013 | -2.8 | |
| Di-n-Butylphthalate | 1.050 | 1.061 | -1.0 | |
| Fluoranthene | * 0.903 | 0.882 | 2.3 | * |
| Pyrene | 1.719 | 1.708 | 0.6 | |
| Butylbenzylphthalate | 0.664 | 0.609 | 8.3 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.222 | 24.8 | |
| Benzo(a)Anthracene | 1.213 | 1.223 | -0.8 | |
| Chrysene | 1.073 | 1.097 | -2.2 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.780 | 6.4 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.222 | 9.3 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.280 | 2.6 | |
| Benzo(k)Fluoranthene | 1.227 | 1.167 | 4.9 | |
| Benzo(a)Pyrene | * 1.200 | 1.168 | 2.7 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.060 | 4.8 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.813 | 11.4 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.915 | 0.7 | |
| Nitrobenzene-d5 | 0.428 | 0.457 | -6.8 | |
| 2-Fluorobiphenyl | 1.114 | 1.236 | -11.0 | |
| Terphenyl-d14 | 1.069 | 1.150 | -7.6 | |
| Phenol-d5 | 1.686 | 1.774 | -5.2 | |
| 2-Fluorophenyl | 1.381 | 1.456 | -5.4 | |
| 2,4,6-Tribromophenol | 0.147 | 0.164 | -11.6 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration date: 04/10/90 Time: 2258

Lab File ID: 5BT04119002 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.561 | -11.7 | |
| 2,4-Dinitrotoluene | 0.311 | 0.335 | -7.7 | |
| Diethylphthalate | 1.082 | 1.183 | -9.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.602 | -16.7 | |
| Fluorene | 1.118 | 1.170 | -4.7 | |
| 4-Nitroaniline | 0.230 | 0.153 | 33.5 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.118 | 1.7 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.517 | -11.7 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.263 | -19.6 | |
| Hexachlorobenzene | 0.231 | 0.280 | -21.2 | |
| Pentachlorophenol | * 0.140 | 0.149 | -6.4 | * |
| Phenanthrene | 0.980 | 1.036 | -5.7 | |
| Anthracene | 0.985 | 1.034 | -5.0 | |
| Di-n-Butylphthalate | 1.050 | 1.174 | -11.8 | |
| Fluoranthene | * 0.903 | 1.045 | -15.7 | * |
| Pyrene | 1.719 | 1.581 | 8.0 | |
| Butylbenzylphthalate | 0.664 | 0.615 | 7.4 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.274 | 7.1 | |
| Benzo(a)Anthracene | 1.213 | 1.224 | -0.9 | |
| Chrysene | 1.073 | 1.070 | 0.3 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.783 | 6.0 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.251 | 7.2 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.254 | 4.6 | |
| Benzo(k)Fluoranthene | 1.227 | 1.144 | 6.8 | |
| Benzo(a)Pyrene | * 1.200 | 1.121 | 6.6 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.066 | 4.2 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.766 | 16.6 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.884 | 4.0 | |
| Nitrobenzene-d5 | 0.428 | 0.455 | -6.3 | |
| 2-Fluorobiphenyl | 1.114 | 1.262 | -13.3 | |
| Terphenyl-d14 | 1.069 | 1.062 | 0.7 | |
| Phenol-d5 | 1.686 | 1.771 | -5.0 | |
| 2-Fluorophenyl | 1.381 | 1.491 | -8.0 | |
| 2,4,6-Tribromophenol | 0.147 | 0.175 | -19.1 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration date: 04/11/90 Time: 1112

Lab File ID: SBT04119003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.519 | -8.7 | |
| 2,4-Dinitrotoluene | 0.311 | 0.323 | -3.9 | |
| Diethylphthalate | 1.082 | 1.129 | -4.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.598 | -15.9 | |
| Fluorene | 1.118 | 1.136 | -1.6 | |
| 4-Nitroaniline | 0.230 | 0.132 | 42.6 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.124 | -3.3 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.513 | -10.8 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.261 | -18.6 | |
| Hexachlorobenzene | 0.231 | 0.280 | -21.2 | |
| Pentachlorophenol | * 0.140 | 0.153 | -9.3 | * |
| Phenanthrene | 0.980 | 1.032 | -5.3 | |
| Anthracene | 0.985 | 1.022 | -3.8 | |
| Di-n-Butylphthalate | 1.050 | 1.141 | -8.7 | |
| Fluoranthene | * 0.903 | 1.020 | -13.0 | * |
| Pyrene | 1.719 | 1.659 | 3.5 | |
| Butylbenzylphthalate | 0.664 | 0.604 | 9.0 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.274 | 7.1 | |
| Benzo(a)Anthracene | 1.213 | 1.230 | -1.4 | |
| Chrysene | 1.073 | 1.100 | -2.5 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.778 | 6.6 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.268 | 5.9 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.218 | 7.3 | |
| Benzo(k)Fluoranthene | 1.227 | 1.102 | 10.2 | |
| Benzo(a)Pyrene | * 1.200 | 1.123 | 6.4 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.105 | 0.7 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.825 | 10.1 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.954 | -3.6 | |
| Nitrobenzene-d5 | 0.428 | 0.471 | -10.1 | |
| 2-Fluorobiphenyl | 1.114 | 1.248 | -12.0 | |
| Terphenyl-d14 | 1.069 | 1.108 | -3.6 | |
| Phenol-d5 | 1.686 | 1.777 | -5.4 | |
| 2-Fluorophenyl | 1.381 | 1.545 | -11.9 | |
| 2,4,6-Tribromophenol | 0.147 | 0.167 | -13.6 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB9

Instrument ID: INCOSE Calibration date: 04/13/90 Time: 1303

Lab File ID: 5BT04139002 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.560 | -11.6 | |
| 2,4-Dinitrotoluene | 0.311 | 0.354 | -13.8 | |
| Diethylphthalate | 1.082 | 1.220 | -12.8 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.620 | -20.2 | |
| Fluorene | 1.118 | 1.195 | -6.9 | |
| 4-Nitroaniline | 0.230 | 0.182 | 20.9 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.134 | -11.7 | |
| N-Nitrosodiphenylamine (1) | 0.463 | 0.505 | -9.1 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.259 | -17.7 | |
| Hexachlorobenzene | 0.231 | 0.268 | -16.0 | |
| Pentachlorophenol | 0.140 | 0.160 | -14.3 | * |
| Phenanthrene | 0.980 | 1.029 | -5.0 | |
| Anthracene | 0.985 | 1.030 | -4.6 | |
| Di-n-Butylphthalate | 1.050 | 1.185 | -12.9 | |
| Fluoranthene | 0.903 | 1.041 | -15.3 | * |
| Pyrene | 1.719 | 1.815 | -5.6 | |
| Butylbenzylphthalate | 0.664 | 0.671 | -1.1 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.166 | 43.7 | |
| Benzo(a)Anthracene | 1.213 | 1.225 | -1.0 | |
| Chrysene | 1.073 | 1.084 | -1.0 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.875 | -5.0 | |
| Di-n-Octyl Phthalate | 1.348 | 1.281 | 5.0 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.302 | 0.9 | |
| Benzo(k)Fluoranthene | 1.227 | 1.128 | 8.1 | |
| Benzo(a)Pyrene | 1.200 | 1.177 | 1.9 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.188 | -6.7 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.883 | 3.8 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.936 | -1.6 | |
| Nitrobenzene-d5 | 0.428 | 0.464 | -8.4 | |
| 2-Fluorobiphenyl | 1.114 | 1.221 | -9.6 | |
| Terphenyl-d14 | 1.069 | 1.216 | -13.8 | |
| Phenol-d5 | 1.686 | 1.843 | -9.3 | |
| 2-Fluorophenol | 1.381 | 1.567 | -13.5 | |
| 2,4,6-Tribromophenol | 0.147 | 0.182 | -23.8 | |

(1) Cannot be separated from Diphenylamine

- o Field duplicates
- o Laboratory control sample results
- o Furnace atomic absorption results
- o Serial dilution analysis
- o Detection limits
- o Sample quantitation

* - Quality Control Criteria not met for this parameter.

Problems affecting data usability are addressed below.

**BLANKS**

Field and laboratory blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (mg/kg) |
|---|---|---|
| Antimony | 6.7 | 6.7 |
| Manganese | 4.6 | 4.6 |
| Sodium | 440 | 440 |
| Cobalt | 6.4 | 6.4 |
| Iron | 36 | 36 |
| Potassium | 230 | 230 |

| Analyte | Maximum Concentration (mg/kg) | Action Level* (mg/kg) |
|---|---|---|
| Calcium | 20.1 | 100.5 |
| Zinc | 0.64 | 3.2 |

* Actual level varies with individual moisture content and weight of sample digested.

No actions were taken for manganese, calcium, or iron as all positive sample results for these analytes are above their respective action levels. No action was taken for antimony as no positive results were reported for this analyte. Positive results within the action level for sodium, cobalt, potassium and zinc are qualified "U", undetected.

**MATRIX SPIKES**

Matrix spike recoveries for antimony, manganese, selenium, silver and thallium were below the 75% lower quality control limit. No C-

**TINKER AIR FORCE BASE**
**CASE # TAFB1, SDG TAFB9**

**TABLE 1 - RECOMMENDATION SUMMARY**

| | | | |
|---|---|---|---|
| Aluminum | | Magnesium | |
| Antimony | $J^1$ | Manganese | $J^1$, $J^4$ |
| Arsenic | | Mercury | |
| Barium | $J^5$ | Nickel | |
| Beryllium | | Potassium | $A^1$ |
| Cadmium | | Selenium | $J^1$ |
| Calcium | $J^4$ | Silver | $J^1$ |
| Chromium | | Sodium | $A^1$ |
| Cobalt | $A^1$ | Thallium | $J^1$ |
| Copper | | Vanadium | |
| Iron | $J^3$ | Zinc | $A^1$ |
| Lead | | Cyanide | |

If the field is left blank, the qualifier is A - Accept all data.

$A^1$ - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

$J^1$ - Estimate "J" positive results and "UJ" nondetects because matrix spike recovery was < 75%.

$J^3$ - Estimate "J" positive results because matrix spike recovery was high.

$J^4$ - Estimate "J" positive results because laboratory duplicate RPD exceeded 35%.

$J^5$ - Estimate "J" positive results because field duplicate RPD exceeded 50%.

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB09

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | | |
| Antimony | | | 5.3 | U | 5.3 | U | 6.7 | B | | | F |
| Arsenic | | | 1.4 | U | 1.4 | U | | | | | F |
| Barium | | | -26.2 | B | | | | | | | P |
| Beryllium | | | | | | | | | | | |
| Cadmium | | | | | | | | | | | |
| Calcium | | | | | | | | | | | |
| Chromium | | | | | | | | | | | |
| Cobalt | | | | | | | | | | | |
| Copper | | | | | | | | | | | |
| Iron | | | | | | | | | | | |
| Lead | | | 0.7 | U | 0.7 | U | 0.7 | U | | | F |
| Magnesium | | | 439.8 | U | | | | | | | A |
| Manganese | | | 4.6 | B | | | | | | | P |
| Mercury | | | | | | | | | | | |
| Nickel | | | | | | | | | | | |
| Potassium | | | | | | | | | | | |
| Selenium | | | 2.0 | U | 2.0 | U | 2.0 | U | | | F |
| Silver | | | | | | | | | | | |
| Sodium | | | | | | | | | | | |
| Thallium | | | 1.3 | U | 1.3 | U | 1.3 | U | | | F |
| Vanadium | | | 6.5 | U | | | | | | | P |
| Zinc | | | | | | | | | | | |
| Cyanide | | | | | | | | | | | |
| | | | | | | | | | | | |

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.
H20908D

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB0S

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 82.1 % Solids for Duplicate: 81.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| Analyte | Control Limit | Sample (S) | C | Duplicate (D) | C | RPD | Q | M |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 32217.5980 | | 29725.1480 | | 8.0 | | P |
| Antimony | 14.6 | 1.2872 | U | 1.2871 | U | | | P |
| Arsenic | 2.4 | 3.0463 | | 2.5343 | | 18.3 | | P |
| Barium | | 2537.9404 | | 2101.6457 | | 18.8 | | P |
| Beryllium | 1.2 | 0.7529 | B | 0.6800 | B | 10.2 | | P |
| Cadmium | 1.2 | 0.7043 | U | 0.7043 | U | | | P |
| Calcium | 1214.4 | 8111.1112 | | 4083.8079 | | 66.0 | * | P |
| Chromium | | 30.8453 | | 28.1952 | | 9.0 | | P |
| Cobalt | 12.1 | 14.0140 | | 14.3526 | | 2.4 | | P |
| Copper | 6.1 | 18.5315 | | 20.9339 | | 12.2 | | P |
| Iron | | 23996.2200 | | 23034.5610 | | 4.1 | | P |
| Lead | | 11.7499 | | 10.0406 | | 15.7 | | P |
| Magnesium | 1215.8 | 4377.0178 | | 5685.0726 | | 26.0 | * | A |
| Manganese | | 420.5341 | | 176.7584 | | 81.6 | * | P |
| Mercury | 0.1 | 0.0585 | U | 0.0602 | U | | | CV |
| Nickel | 9.7 | 23.4376 | | 27.1752 | | 14.8 | | P |
| Potassium | 1214.4 | 3946.7468 | | 4213.4912 | | 6.5 | | A |
| Selenium | 1.2 | 0.4835 | U | 0.4827 | U | | | P |
| Silver | 2.4 | 1.7891 | U | 1.7861 | U | | | P |
| Sodium | 1214.4 | 748.0603 | B | 747.9858 | B | 0.0 | | A |
| Thallium | 2.4 | 0.3143 | U | 0.3138 | U | | | P |
| Vanadium | 12.1 | 36.7958 | | 29.5552 | | 21.8 | | P |
| Zinc | | 44.4464 | | 43.8106 | | 1.4 | | P |
| Cyanide | 0.3 | 0.2752 | U | 0.2752 | U | | | C |

Data which did not meet quality criteria are discussed below.

Volatile Fraction

Samples T-SU-SB218A and T-GW-SB221A were found to contain total-1,2-dichloroethene, trichloroethene and tetrachloroethene. Positive results at concentrations below the CRQL were reported for vinyl acetate and trichloroethene in samples T-SU-SB221A and for chloromethane in sample T-SU-SB221C.

Sample T-TB-MAR23A was analyzed more than twelve hours after the BFB injection and tune for 3/27/90. No action was taken, however, since this occurrence had no direct impact on the environmental samples analyzed.

The following contaminants were detected in trip, rinsate and laboratory method blank analyses in the maximum concentrations indicated:

| Contaminant | Maximum Concentration (ug/kg) |
|---|---|
| Benzene | 3 |
| Chloroform | 20 |
| Carbon Disulfide | 30 |
| Ethylbenzene | 1 |
| **Common Contaminant** | |
| Methylene Chloride | 3 |
| Acetone | 10 |
| Tolune | .2 |

Action levels of 10X the maximum amount of common lab contaminant and 5X the maximum amount of other contaminant(s) detected were used to evaluate data. Adjustments for individual sample size and moisture content were made prior to the application of the action-levels. Sample contaminant concentrations below the Contract Required Quantitation Limit (CRQL) have been deleted (i.e. values have been replaced by the CRQL, then qualified "U", undetected.) Sample contaminant concentrations above the CRQL but within the action level remain as reported followed by the undetected qualifier, "U".

The average initial Relative Response Factor (RRF) for 2-butanone was less than 0.05. Only sample T-GW-SB221A is affected. The non-detect for 2-butanone in this sample is considered to be unreliable and has been rejected, qualified "R".

The Relative Percent Difference (RPD) for diethylphthalate exceeded the 50% field duplicate quality control limit for soils. No action was taken as the positive result for diethylphthalate in sample T-SU-SB218B is below the CRQL.

The positive result reported for diethylphthalate is qualified as estimated, "J", as it is below the CRQL.

The following Tentatively Identified Compounds (TICs) was detected in blanks analyzed with this sample set:

| TIC | Maximum Concentration (ug/kg) |
|---|---|
| 4-methyl-3-penten-2-one | 310 |
| (E)-2,5-dimethyl-3-hexene | 230 |
| (E)-3-octene | 150 |
| 2,3,4-trimethyl-hexane | 200 |
| 4-ethyl-2-methyl-hexane | 850 |
| 2,6-dimethyl-heptane | 340 |
| aldol condensation product | 4300 |
| 2,3-dimethyl-heptane | 610 |
| 3-ethyl-4-methyl-hexane | 220 |
| 2,4-dimethyl-heptane | 640 |
| 4-(1-methylethyl)-heptane | 1100 |
| 1,1,2,2-tetramethylcyclopropane | 670 |
| 2,5-dimethyl-2-hexene | 140 |
| 2,3,6-trimethyl-heptane | 220 |
| 3,5-dimethyl-octane | 390 |
| 4-methyl-octane | 940 |
| 5,5-dimethyl-2(5H)-furanone | 520 |
| 3,5-dimethyl-2-cyolohexen-1-one | 220 |
| 3,4-dimethyl-heptane | 170 |
| 2-methyl-1-propanoic acid | 210 |

Sample results for these TICs reported at concentrations less than 5X the maximum amounts shown above have been stricken (crossed-out) on the Form I-SV TIC reports.

Please do not hesitate to contact me if you have any questions regarding this review.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKC16

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKC16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03229005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 6 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 3 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03279002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | (3) | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | (2) | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCV

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCV

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03299002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | BJ |
| 67-64-1 | Acetone | 4 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 3 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAB21A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121079

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP0326900I

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. _____ Date Analyzed: 03/26/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 30 | |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 13 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 1 | J |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TTBMAP11A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1C

Matrix: (soil/water) SOIL Lab Sample ID: H121081

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP0329901

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. 20 Date Analyzed: 03/23/90

Column: (pack/cap) PACKED Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | | C |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 6 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 6 | U |
| 75-35-4 | 1,1-Dichloroethene | 6 | U |
| 75-34-3 | 1,1-Dichloroethane | 6 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 6 | U |
| 67-66-3 | Chloroform | 20 | |
| 107-06-2 | 1,2-Dichloroethane | 6 | U |
| 78-93-3 | 2-Butanone | 13 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 6 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 6 | U |
| 78-87-5 | 1,2-Dichloropropane | 6 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 6 | U |
| 79-01-6 | Trichloroethene | 6 | U |
| 124-48-1 | Dibromochloromethane | 6 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 6 | U |
| 71-43-2 | Benzene | 6 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 6 | U |
| 75-25-2 | Bromoform | 6 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 6 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 6 | U |
| 108-88-3 | Toluene | 6 | U |
| 108-90-7 | Chlorobenzene | 6 | U |
| 100-41-4 | Ethylbenzene | 6 | U |
| 100-42-5 | Styrene | 6 | U |
| 1330-20-7 | Xylene (total) | 6 | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE ...

TFBMAB19A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1C

Matrix: (soil/water) SOIL Lab Sample ID: H120964

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP041090C3

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/09/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAP21A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121079

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP0413900

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TBBMAP22A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121262

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04109008

Level: (low/med) LOW Date Received: 03/04/90

% Moisture: not dec. dec. Date Extracted:

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 330 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 330 | U |
| 95-57-8 | 2-Chlorophenol | 330 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 330 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 330 | U |
| 100-51-6 | Benzyl Alcohol | 330 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 330 | U |
| 95-48-7 | 2-Methylphenol | 330 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 330 | U |
| 106-44-5 | 4-Methylphenol | 330 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330 | U |
| 67-72-1 | Hexachloroethane | 330 | U |
| 98-95-3 | Nitrobenzene | 330 | U |
| 78-59-1 | Isophorone | 330 | U |
| 88-75-5 | 2-Nitrophenol | 330 | U |
| 105-67-9 | 2,4-Dimethylphenol | 330 | U |
| 65-85-0 | Benzoic Acid | 1600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 330 | U |
| 120-83-2 | 2,4-Dichlorophenol | 330 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 330 | U |
| 91-20-3 | Naphthalene | 330 | U |
| 106-47-8 | 4-Chloroaniline | 330 | U |
| 87-68-3 | Hexachlorobutadiene | 330 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330 | U |
| 91-57-6 | 2-Methylnaphthalene | 330 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 330 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 330 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 1600 | U |
| 91-58-7 | 2-Chloronaphthalene | 330 | U |
| 88-74-4 | 2-Nitroaniline | 1600 | U |
| 131-11-3 | Dimethyl Phthalate | 330 | U |
| 208-96-8 | Acenaphthylene | 330 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 330 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLMC16

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLMC16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03229005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/22/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 1 | J |
| 67-64-1 | Acetone | 6 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 3 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03279002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 74-87-3 | Chloromethane | 10 U |
| 74-83-9 | Bromomethane | 10 U |
| 75-01-4 | Vinyl Chloride | 10 U |
| 75-00-3 | Chloroethane | 10 U |
| 75-09-2 | Methylene Chloride | 5 U |
| 67-64-1 | Acetone | (3) J |
| 75-15-0 | Carbon Disulfide | 5 U |
| 75-35-4 | 1,1-Dichloroethene | 5 U |
| 75-34-3 | 1,1-Dichloroethane | 5 U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 U |
| 67-66-3 | Chloroform | 5 U |
| 107-06-2 | 1,2-Dichloroethane | 5 U |
| 78-93-3 | 2-Butanone | 10 U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 U |
| 56-23-5 | Carbon Tetrachloride | 5 U |
| 108-05-4 | Vinyl Acetate | 10 U |
| 75-27-4 | Bromodichloromethane | 5 U |
| 78-87-5 | 1,2-Dichloropropane | 5 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 U |
| 79-01-6 | Trichloroethene | 5 U |
| 124-48-1 | Dibromochloromethane | 5 U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 U |
| 71-43-2 | Benzene | (2) J |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 U |
| 75-25-2 | Bromoform | 5 U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 U |
| 591-78-6 | 2-Hexanone | 10 U |
| 127-18-4 | Tetrachloroethene | 5 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 U |
| 108-88-3 | Toluene | 5 U |
| 108-90-7 | Chlorobenzene | 5 U |
| 100-41-4 | Ethylbenzene | 5 U |
| 100-42-5 | Styrene | 5 U |
| 1330-20-7 | Xylene (total) | 5 U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCV

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCV

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03299002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | C |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | J |
| 67-64-1 | Acetone | 4 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 3 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

6A

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: 4500B Calibration Date(s): 03/20/90 03/20/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 3VT03209001 RRF50 = 3VT03209002
RRF100= 3VT03209003 RRF150= 3VT03209004 RRF200= 3VT03209005

| COMPOUND | | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| Chloromethane | # | 1.983 | 2.124 | 1.878 | 1.677 | 1.670 | 1.866 | 10.5# |
| Bromomethane | | 0.627 | 0.563 | 0.513 | 0.461 | 0.470 | 0.527 | 13.1 |
| Vinyl Chloride | * | 1.028 | 0.822 | 0.614 | 0.559 | 0.563 | 0.717 | 28.5* |
| Chloroethane | | 0.662 | 0.454 | 0.335 | 0.190 | 0.149 | 0.358 | 55.3 |
| Methylene Chloride | | 1.823 | 1.718 | 1.661 | 1.459 | 2.027 | 1.738 | 12.0 |
| Acetone | | 2.399 | 2.403 | 2.147 | 1.831 | 1.763 | 2.109 | 14.4 |
| Carbon Disulfide | | 1.847 | 1.748 | 1.528 | 1.234 | 4.814 | 2.234 | 65.4 |
| 1,1-Dichloroethene | * | 1.291 | 1.218 | 1.157 | 1.053 | 1.747 | 1.293 | 20.9* |
| 1,1-Dichloroethane | # | 3.274 | 3.231 | 3.290 | 3.017 | 3.736 | 3.310 | 7.9# |
| 1,2-Dichloroethene (total) | | 1.352 | 1.294 | 1.280 | 1.129 | 1.905 | 1.392 | 21.4 |
| Chloroform | * | 2.923 | 2.816 | 2.770 | 2.511 | 2.877 | 2.779 | 5.8* |
| 1,2-Dichloroethane | | 1.604 | 1.576 | 1.494 | 1.343 | 1.626 | 1.529 | 7.5 |
| 2-Butanone | | 0.153 | 0.156 | 0.148 | 0.131 | 0.129 | 0.143 | 8.8 |
| 1,1,1-Trichloroethane | | 0.346 | 0.334 | 0.324 | 0.311 | 0.373 | 0.338 | 7.2 |
| Carbon Tetrachloride | | 0.255 | 0.256 | 0.247 | 0.240 | 0.302 | 0.260 | 9.4 |
| Vinyl Acetate | | 0.597 | 0.595 | 0.601 | 0.572 | 0.684 | 0.610 | 7.0 |
| Bromodichloromethane | | 0.514 | 0.510 | 0.502 | 0.494 | 0.538 | 0.512 | 3.2 |
| 1,2-Dichloropropane | * | 0.475 | 0.460 | 0.469 | 0.445 | 0.516 | 0.473 | 5.6* |
| cis-1,3-Dichloropropene | | 0.724 | 0.716 | 0.734 | 0.691 | 0.780 | 0.729 | 4.5 |
| Trichloroethene | | 0.325 | 0.316 | 0.322 | 0.298 | 0.381 | 0.328 | 9.5 |
| Dibromochloromethane | | 0.433 | 0.435 | 0.450 | 0.410 | 0.430 | 0.432 | 3.3 |
| 1,1,2-Trichloroethane | | 0.381 | 0.377 | 0.384 | 0.351 | 0.369 | 0.372 | 3.6 |
| Benzene | | 1.282 | 1.178 | 1.150 | 0.991 | 1.101 | 1.140 | 9.3 |
| trans-1,3-Dichloropropene | | 0.344 | 0.336 | 0.342 | 0.317 | 0.359 | 0.340 | 4.5 |
| Bromoform | # | 0.347 | 0.353 | 0.352 | 0.342 | 0.353 | 0.349 | 1.4# |
| 4-Methyl-2-Pentanone | | 1.286 | 1.289 | 1.316 | 1.249 | 1.172 | 1.262 | 4.4 |
| 2-Hexanone | | 1.117 | 1.127 | 1.124 | 1.054 | 1.044 | 1.093 | 3.7 |
| Tetrachloroethene | | 0.297 | 0.286 | 0.280 | 0.261 | 0.344 | 0.294 | 10.6 |
| 1,1,2,2-Tetrachloroethane | # | 0.998 | 0.975 | 0.990 | 0.952 | 0.968 | 0.977 | 1.9# |
| Toluene | * | 0.899 | 0.862 | 0.854 | 0.797 | 0.980 | 0.878 | 7.7* |
| Chlorobenzene | # | 1.042 | 1.008 | 1.004 | 0.955 | 1.096 | 1.021 | 5.1# |
| Ethylbenzene | * | 0.510 | 0.494 | 0.486 | 0.463 | 0.551 | 0.501 | 6.5* |
| Styrene | | 1.056 | 0.998 | 0.994 | 0.958 | 1.112 | 1.024 | 5.9 |
| Xylene (total) | | 0.538 | 0.506 | 0.495 | 0.488 | 0.535 | 0.512 | 4.5 |
| Toluene-d8 | | 3.218 | 1.283 | 1.279 | 1.198 | 1.101 | 1.616 | 55.6 |
| BFB | | 1.580 | 0.624 | 0.630 | 0.601 | 0.608 | 0.809 | 53.3 |
| 1,2-Dichloroethane-d4 | | 3.746 | 1.535 | 1.468 | 1.345 | 1.352 | 1.889 | 55.1 |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: INCOSF Calibration Date(s): 03/13/90 03/13/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 6VT03149003 RRF50 = 6VT03149004
RRF100= 6VT03149005 RRF150= 6VT03149006 RRF200= 6VT03149007

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 0.826 | 0.829 | 0.797 | 0.759 | 0.572 | 0.757 | 14.1# |
| Bromomethane | 1.267 | 1.300 | 1.098 | 0.890 | 0.688 | 1.049 | 24.7 |
| Vinyl Chloride * | 0.995 | 1.085 | 1.021 | 0.941 | 0.691 | 0.947 | 16.1* |
| Chloroethane | 0.774 | 0.823 | 0.759 | 0.720 | 0.569 | 0.728 | 13.3 |
| Methylene Chloride | 1.744 | 1.543 | 1.417 | 1.312 | 1.297 | 1.463 | 12.7 |
| Acetone | 0.418 | 0.243 | 0.384 | 0.292 | 0.187 | 0.307 | 30.3 |
| Carbon Disulfide | 1.554 | 1.712 | 1.713 | 1.698 | 1.736 | 1.683 | 4.3 |
| 1,1-Dichloroethene * | 1.352 | 1.360 | 1.296 | 1.184 | 1.144 | 1.267 | 7.8* |
| 1,1-Dichloroethane # | 3.053 | 3.049 | 2.801 | 2.637 | 2.511 | 2.810 | 8.6# |
| 1,2-Dichloroethene (total) | 1.421 | 1.442 | 1.342 | 1.274 | 1.224 | 1.341 | 7.0 |
| Chloroform * | 3.637 | 3.385 | 3.119 | 2.940 | 2.766 | 3.169 | 11.0* |
| 1,2-Dichloroethane | 2.213 | 2.046 | 1.901 | 1.753 | 1.658 | 1.914 | 11.6 |
| 2-Butanone | 0.021 | 0.024 | 0.039 | 0.031 | 0.023 | 0.028 | 26.4 |
| 1,1,1-Trichloroethane | 0.687 | 0.666 | 0.646 | 0.598 | 0.567 | 0.633 | 7.8 |
| Carbon Tetrachloride | 0.541 | 0.562 | 0.567 | 0.528 | 0.510 | 0.542 | 4.4 |
| Vinyl Acetate | 0.323 | 0.348 | 0.280 | 0.283 | 0.311 | 0.309 | 9.3 |
| Bromodichloromethane | 0.714 | 0.769 | 0.749 | 0.691 | 0.655 | 0.716 | 6.3 |
| 1,2-Dichloropropane * | 0.480 | 0.475 | 0.448 | 0.408 | 0.390 | 0.440 | 9.1* |
| cis-1,3-Dichloropropene | 0.344 | 0.383 | 0.380 | 0.353 | 0.333 | 0.359 | 6.2 |
| Trichloroethene | 0.473 | 0.472 | 0.464 | 0.426 | 0.399 | 0.447 | 7.4 |
| Dibromochloromethane | 0.524 | 0.654 | 0.683 | 0.645 | 0.617 | 0.625 | 9.8 |
| 1,1,2-Trichloroethane | 0.461 | 0.442 | 0.408 | 0.372 | 0.347 | 0.406 | 11.7 |
| Benzene | 0.990 | 0.982 | 0.920 | 0.849 | 0.801 | 0.908 | 9.1 |
| trans-1,3-Dichloropropene | 0.723 | 0.767 | 0.738 | 0.700 | 0.660 | 0.718 | 5.6 |
| Bromoform # | 0.317 | 0.473 | 0.534 | 0.513 | 0.491 | 0.466 | 18.5# |
| 4-Methyl-2-Pentanone | 0.419 | 0.381 | 0.381 | 0.333 | 0.321 | 0.367 | 10.9 |
| 2-Hexanone | 0.298 | 0.255 | 0.376 | 0.287 | 0.219 | 0.287 | 20.4 |
| Tetrachloroethene | 0.473 | 0.446 | 0.443 | 0.415 | 0.391 | 0.434 | 7.2 |
| 1,1,2,2-Tetrachloroethane # | 0.739 | 0.713 | 0.690 | 0.643 | 0.623 | 0.682 | 7.1# |
| Toluene * | 0.775 | 0.708 | 0.692 | 0.679 | 0.642 | 0.699 | 7.0* |
| Chlorobenzene # | 1.049 | 1.023 | 0.990 | 0.936 | 0.879 | 0.975 | 7.0# |
| Ethylbenzene * | 0.507 | 0.502 | 0.504 | 0.477 | 0.452 | 0.488 | 4.8* |
| Styrene | 0.981 | 0.968 | 0.979 | 0.913 | 0.881 | 0.940 | 5.6 |
| Xylene (total) | 0.601 | 0.592 | 0.573 | 0.532 | 0.493 | 0.558 | 8.1 |
| Toluene-d8 | 1.321 | 1.133 | 1.031 | 0.987 | 0.929 | 1.080 | 14.3 |
| BFB | 1.101 | 0.924 | 0.858 | 0.801 | 0.757 | 0.888 | 15.1 |
| 1,2-Dichloroethane-d4 | 2.363 | 1.898 | 1.737 | 1.612 | 1.521 | 1.826 | 18.2 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: 4500A Calibration date: 03/28/90 Time: 1005

Lab File ID: 2VT03289002 Init. Calib. Date(s): 03/27/90 03/28/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 0.991 | 0.692 | 30.2 | # |
| Bromomethane | | 1.074 | 0.853 | 20.6 | |
| Vinyl Chloride | * | 1.116 | 0.866 | 22.4 | * |
| Chloroethane | | 0.747 | 0.632 | 15.4 | |
| Methylene Chloride | | 1.353 | 1.354 | -0.1 | |
| Acetone | | 1.071 | 1.192 | -10.4 | |
| Carbon Disulfide | | 2.545 | 3.309 | -30.0 | |
| 1,1-Dichloroethene | * | 1.217 | 1.285 | -5.6 | * |
| 1,1-Dichloroethane | # | 3.354 | 3.322 | 1.0 | # |
| 1,2-Dichloroethene (total) | | 1.387 | 1.544 | -11.3 | |
| Chloroform | * | 3.849 | 3.712 | 3.6 | * |
| 1,2-Dichloroethane | | 2.788 | 2.724 | 2.3 | |
| 2-Butanone | | 0.101 | 0.093 | 7.9 | |
| 1,1,1-Trichloroethane | | 0.720 | 0.747 | -3.8 | |
| Carbon Tetrachloride | | 0.608 | 0.664 | -9.2 | |
| Vinyl Acetate | | 1.198 | 1.238 | -3.3 | |
| Bromodichloromethane | | 0.884 | 0.873 | 1.2 | |
| 1,2-Dichloropropane | * | 0.486 | 0.508 | -4.5 | * |
| cis-1,3-Dichloropropene | | 0.950 | 1.004 | -5.7 | |
| Trichloroethene | | 0.460 | 0.512 | -11.3 | |
| Dibromochloromethane | | 0.687 | 0.709 | -3.2 | |
| 1,1,2-Trichloroethane | | 0.439 | 0.460 | -4.8 | |
| Benzene | | 1.000 | 1.112 | -11.2 | |
| trans-1,3-Dichloropropene | | 0.503 | 0.522 | -3.8 | |
| Bromoform | # | 0.576 | 0.562 | 2.4 | # |
| 4-Methyl-2-Pentanone | | 1.310 | 1.225 | 6.5 | |
| 2-Hexanone | | 1.099 | 1.033 | 6.0 | |
| Tetrachloroethene | | 0.466 | 0.475 | -1.9 | |
| 1,1,2,2-Tetrachloroethane | # | 1.119 | 1.065 | 4.8 | # |
| Toluene | * | 0.791 | 0.824 | -4.2 | * |
| Chlorobenzene | # | 1.052 | 1.033 | 1.8 | # |
| Ethylbenzene | * | 0.500 | 0.488 | 2.4 | * |
| Styrene | | 1.037 | 1.036 | 0.1 | |
| Xylene (total) | | 0.348 | 0.257 | 26.2 | |
| Toluene-d8 | | 1.006 | 1.113 | -10.6 | |
| BFB | | 0.842 | 0.864 | -2.6 | |
| 1,2-Dichloroethane-d4 | | 2.253 | 2.324 | -3.2 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: 4500B Calibration date: 03/23/90 Time: 1053

Lab File ID: 3VT03239001 Init. Calib. Date(s): 03/20/90 03/20/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 1.866 | 1.716 | 8.0 | # |
| Bromomethane | 0.527 | 0.530 | -0.6 | |
| Vinyl Chloride | 0.717 | 0.896 | -25.0 | * |
| Chloroethane | 0.358 | 0.433 | -21.0 | |
| Methylene Chloride | 1.738 | 1.991 | -14.6 | |
| Acetone | 2.109 | 1.701 | 19.4 | |
| Carbon Disulfide | 2.234 | 5.462 | -99.9 | |
| 1,1-Dichloroethene | 1.293 | 1.540 | -19.1 | * |
| 1,1-Dichloroethane | 3.310 | 3.594 | -8.6 | # |
| 1,2-Dichloroethene (total) | 1.392 | 1.797 | -29.1 | |
| Chloroform | 2.779 | 2.938 | -5.7 | * |
| 1,2-Dichloroethane | 1.529 | 1.684 | -10.1 | |
| 2-Butanone | 0.143 | 0.142 | 0.7 | |
| 1,1,1-Trichloroethane | 0.338 | 0.361 | -6.8 | |
| Carbon Tetrachloride | 0.260 | 0.289 | -11.2 | |
| Vinyl Acetate | 0.610 | 1.279 | -99.9 | |
| Bromodichloromethane | 0.512 | 0.533 | -4.1 | |
| 1,2-Dichloropropane | 0.473 | 0.510 | -7.8 | * |
| cis-1,3-Dichloropropene | 0.729 | 0.803 | -10.2 | |
| Trichloroethene | 0.328 | 0.383 | -16.8 | |
| Dibromochloromethane | 0.432 | 0.452 | -4.6 | |
| 1,1,2-Trichloroethane | 0.372 | 0.389 | -4.6 | |
| Benzene | 1.140 | 1.411 | -23.8 | |
| trans-1,3-Dichloropropene | 0.340 | 0.366 | -7.6 | |
| Bromoform | 0.349 | 0.346 | 0.9 | # |
| 4-Methyl-2-Pentanone | 1.262 | 1.195 | 5.3 | |
| 2-Hexanone | 1.093 | 0.987 | 9.7 | |
| Tetrachloroethene | 0.294 | 0.336 | -14.3 | |
| 1,1,2,2-Tetrachloroethane | 0.977 | 0.932 | 4.6 | # |
| Toluene | 0.878 | 0.948 | -8.0 | * |
| Chlorobenzene | 1.021 | 1.008 | 1.3 | # |
| Ethylbenzene | 0.501 | 0.487 | 2.8 | * |
| Styrene | 1.024 | 0.993 | 3.0 | |
| Xylene (total) | 0.512 | 0.592 | -15.6 | |
| Toluene-d8 | 1.616 | 1.220 | 24.5 | |
| BFB | 0.809 | 0.575 | 28.9 | |
| 1,2-Dichloroethane-d4 | 1.889 | 1.466 | 22.4 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: 4500B Calibration date: 03/29/90 Time: 0857

Lab File ID: 3VT03299001 Init. Calib. Date(s): 03/26/90 03/26/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Chloromethane | # | 1.913 | 1.940 | -1.4 | # |
| Bromomethane | | 0.557 | 0.593 | -6.5 | |
| Vinyl Chloride | * | 0.782 | 0.638 | 18.4 | * |
| Chloroethane | | 0.430 | 0.277 | 35.6 | |
| Methylene Chloride | | 2.240 | 2.006 | 10.5 | |
| Acetone | | 1.881 | 1.673 | 11.1 | |
| Carbon Disulfide | | 5.998 | 4.107 | 31.5 | |
| 1,1-Dichloroethene | * | 1.797 | 1.444 | 19.6 | * |
| 1,1-Dichloroethane | # | 4.084 | 3.856 | 5.6 | # |
| 1,2-Dichloroethene (total) | | 2.003 | 1.736 | 13.3 | |
| Chloroform | * | 3.312 | 3.361 | -1.5 | * |
| 1,2-Dichloroethane | | 1.945 | 2.068 | -6.3 | |
| 2-Butanone | | 0.146 | 0.150 | -2.7 | |
| 1,1,1-Trichloroethane | | 0.404 | 0.426 | -5.4 | |
| Carbon Tetrachloride | | 0.324 | 0.334 | -3.1 | |
| Vinyl Acetate | | 1.332 | 1.541 | -15.7 | |
| Bromodichloromethane | | 0.564 | 0.623 | -10.5 | |
| 1,2-Dichloropropane | * | 0.542 | 0.552 | -1.8 | * |
| cis-1,3-Dichloropropene | | 0.838 | 0.874 | -4.3 | |
| Trichloroethene | | 0.396 | 0.369 | 7.5 | |
| Dibromochloromethane | | 0.464 | 0.509 | -9.7 | |
| 1,1,2-Trichloroethane | | 0.406 | 0.441 | -8.6 | |
| Benzene | | 1.415 | 1.440 | -1.8 | |
| trans-1,3-Dichloropropene | | 0.386 | 0.413 | -7.0 | |
| Bromoform | # | 0.368 | 0.407 | -10.6 | # |
| 4-Methyl-2-Pentanone | | 1.383 | 1.344 | 2.8 | |
| 2-Hexanone | | 1.142 | 1.100 | 3.7 | |
| Tetrachloroethene | | 0.354 | 0.355 | -0.3 | |
| 1,1,2,2-Tetrachloroethane | # | 1.027 | 1.128 | -9.8 | # |
| Toluene | * | 1.020 | 0.980 | 3.9 | * |
| Chlorobenzene | # | 1.115 | 1.107 | 0.7 | # |
| Ethylbenzene | * | 0.556 | 0.553 | 0.5 | * |
| Styrene | | 1.117 | 1.125 | -0.7 | |
| Xylene (total) | | 0.635 | 0.563 | 11.3 | |
| Toluene-d8 | | 1.171 | 1.138 | 2.8 | |
| BFB | | 0.634 | 0.664 | -4.7 | |
| 1,2-Dichloroethane-d4 | | 1.584 | 1.703 | -7.5 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Instrument ID: INCOSF Calibration date: 03/26/90 Time: 1354

Lab File ID: 6VT03269004 Init. Calib. Date(s): 03/26/90 03/26/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.919 | 1.015 | -10.5 | # |
| Bromomethane | 1.201 | 1.466 | -22.1 | |
| Vinyl Chloride | 1.173 | 1.295 | -10.4 | * |
| Chloroethane | 0.834 | 0.928 | -11.3 | |
| Methylene Chloride | 1.479 | 1.570 | -6.2 | |
| Acetone | 0.272 | 0.298 | -9.6 | |
| Carbon Disulfide | 2.049 | 2.269 | -10.7 | |
| 1,1-Dichloroethene | 1.289 | 1.394 | -8.1 | * |
| 1,1-Dichloroethane | 2.752 | 2.968 | -7.8 | # |
| 1,2-Dichloroethene (total) | 1.347 | 1.454 | -7.9 | |
| Chloroform | 3.089 | 3.359 | -8.7 | * |
| 1,2-Dichloroethane | 1.703 | 1.857 | -9.0 | |
| 2-Butanone | 0.034 | 0.034 | 0.0 | |
| 1,1,1-Trichloroethane | 0.626 | 0.660 | -5.4 | |
| Carbon Tetrachloride | 0.552 | 0.580 | -5.1 | |
| Vinyl Acetate | 0.591 | 0.623 | -5.4 | |
| Bromodichloromethane | 0.729 | 0.750 | -2.9 | |
| 1,2-Dichloropropane | 0.464 | 0.480 | -3.4 | * |
| cis-1,3-Dichloropropene | 0.360 | 0.368 | -2.2 | |
| Trichloroethene | 0.506 | 0.538 | -6.3 | |
| Dibromochloromethane | 0.667 | 0.679 | -1.9 | |
| 1,1,2-Trichloroethane | 0.427 | 0.449 | -5.2 | |
| Benzene | 0.973 | 1.030 | -5.9 | |
| trans-1,3-Dichloropropene | 0.740 | 0.754 | -1.9 | |
| Bromoform | 0.514 | 0.509 | 1.0 | # |
| 4-Methyl-2-Pentanone | 0.348 | 0.360 | -3.4 | |
| 2-Hexanone | 0.249 | 0.260 | -4.4 | |
| Tetrachloroethene | 0.497 | 0.552 | -11.1 | |
| 1,1,2,2-Tetrachloroethane | 0.696 | 0.738 | -6.0 | # |
| Toluene | 0.745 | 0.801 | -7.5 | * |
| Chlorobenzene | 1.078 | 1.154 | -7.1 | # |
| Ethylbenzene | 0.539 | 0.579 | -7.4 | * |
| Styrene | 1.059 | 1.127 | -6.4 | |
| Xylene (total) | 1.312 | 1.409 | -7.4 | |
| Toluene-d8 | 1.075 | 1.150 | -7.0 | |
| BFB | 0.961 | 1.012 | -5.3 | |
| 1,2-Dichloroethane-d4 | 1.556 | 1.675 | -7.6 | |

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Instrument ID: INCOSE Calibration Date(s): 03/28/90 03/29/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 5BT03289004 RRF50 = 5BT03289003
RRF80 = 5BT03289005 RRF120= 5BT03289006 RRF160= 5BT03299003

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Phenol * | 2.102 | 2.087 | 1.979 | 1.911 | 1.609 | 1.938 | 10.3* |
| bis(2-Chloroethyl)Ether | 1.593 | 1.599 | 1.547 | 1.519 | 1.358 | 1.523 | 6.4 |
| 2-Chlorophenol | 1.383 | 1.411 | 1.367 | 1.366 | 1.238 | 1.349 | 4.6 |
| 1,3-Dichlorobenzene | 1.448 | 1.517 | 1.456 | 1.413 | 1.259 | 1.419 | 6.5 |
| 1,4-Dichlorobenzene * | 1.414 | 1.468 | 1.403 | 1.373 | 1.191 | 1.370 | 7.7* |
| Benzyl Alcohol | 0.835 | 0.903 | 0.889 | 0.940 | 0.819 | 0.880 | 6.6 |
| 1,2-Dichlorobenzene | 1.255 | 1.409 | 1.347 | 1.297 | 1.139 | 1.309 | 7.9 |
| 2-Methylphenol | 1.289 | 1.341 | 1.291 | 1.283 | 1.061 | 1.253 | 8.8 |
| bis(2-Chloroisopropyl)Ether | 2.778 | 2.841 | 2.642 | 2.544 | 2.308 | 2.623 | 8.0 |
| 4-Methylphenol | 1.291 | 1.359 | 1.301 | 1.305 | 1.093 | 1.270 | 8.1 |
| N-Nitroso-Di-n-Propylamine # | 1.136 | 1.186 | 1.125 | 1.157 | 1.069 | 1.134 | 3.9* |
| Hexachloroethane | 0.587 | 0.635 | 0.613 | 0.603 | 0.545 | 0.597 | 5.6 |
| Nitrobenzene | 0.406 | 0.424 | 0.379 | 0.377 | 0.370 | 0.391 | 5.9 |
| Isophorone | 0.739 | 0.767 | 0.739 | 0.757 | 0.723 | 0.745 | 2.3 |
| 2-Nitrophenol * | 0.201 | 0.198 | 0.185 | 0.200 | 0.195 | 0.198 | 1.4* |
| 2,4-Dimethylphenol | 0.349 | 0.358 | 0.352 | 0.353 | 0.314 | 0.345 | 5.1 |
| Benzoic Acid | | 0.195 | 0.168 | 0.191 | 0.157 | 0.178 | 10.3 |
| bis(2-Chloroethoxy)Methane | 0.498 | 0.518 | 0.488 | 0.482 | 0.434 | 0.484 | 6.4 |
| 2,4-Dichlorophenol * | 0.277 | 0.301 | 0.289 | 0.291 | 0.272 | 0.286 | 3.9* |
| 1,2,4-Trichlorobenzene | 0.302 | 0.317 | 0.301 | 0.295 | 0.268 | 0.297 | 6.0 |
| Naphthalene | 1.011 | 0.995 | 0.878 | 0.761 | 0.602 | 0.847 | 20.3 |
| 4-Chloroaniline | 0.349 | 0.395 | 0.402 | 0.414 | 0.371 | 0.386 | 6.8 |
| Hexachlorobutadiene * | 0.148 | 0.161 | 0.156 | 0.150 | 0.142 | 0.151 | 4.9* |
| 4-Chloro-3-Methylphenol * | 0.284 | 0.326 | 0.305 | 0.313 | 0.300 | 0.306 | 5.1* |
| 2-Methylnaphthalene | 0.692 | 0.690 | 0.628 | 0.577 | 0.489 | 0.611 | 15.2 |
| Hexachlorocyclopentadiene # | 0.153 | 0.166 | 0.164 | 0.172 | 0.162 | 0.163 | 4.2# |
| 2,4,6-Trichlorophenol * | 0.327 | 0.362 | 0.372 | 0.374 | 0.355 | 0.358 | 5.3* |
| 2,4,5-Trichlorophenol | | 0.351 | 0.358 | 0.359 | 0.332 | 0.350 | 2.6 |
| 2-Chloronaphthalene | 1.093 | 1.082 | 1.072 | 1.032 | 0.877 | 1.031 | 8.7 |
| 2-Nitroaniline | | 0.451 | 0.467 | 0.475 | 0.432 | 0.456 | 4.2 |
| Dimethyl Phthalate | 1.118 | 1.180 | 1.171 | 1.145 | 1.021 | 1.127 | 5.7 |
| Acenaphthylene | 1.827 | 1.744 | 1.673 | 1.500 | 1.125 | 1.574 | 17.7 |
| 2,6-Dinitrotoluene | 0.256 | 0.274 | 0.273 | 0.266 | 0.238 | 0.261 | 5.7 |
| 3-Nitroaniline | | 0.283 | 0.273 | 0.307 | 0.291 | 0.284 | 6.9 |
| Acenaphthene * | 1.097 | 1.133 | 1.108 | 1.063 | 0.895 | 1.047 | 11.6* |
| 2,4-Dinitrophenol # | | 0.142 | 0.134 | 0.145 | 0.154 | 0.144 | 5.7# |
| 4-Nitrophenol # | | 0.114 | 0.121 | 0.123 | 0.103 | 0.115 | 7.9# |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Instrument ID: INCOSE Calibration date: 04/09/90 Time: 0835

Lab File ID: 5BT04109001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.939 | 2.073 | -7.0 | * |
| bis(2-Chloroethyl)Ether | | 1.523 | 1.565 | -2.8 | |
| 2-Chlorophenol | | 1.349 | 1.429 | -5.9 | |
| 1,3-Dichlorobenzene | | 1.419 | 1.525 | -7.5 | |
| 1,4-Dichlorobenzene | * | 1.370 | 1.456 | -6.3 | * |
| Benzyl Alcohol | | 0.882 | 0.867 | 1.7 | |
| 1,2-Dichlorobenzene | | 1.309 | 1.409 | -7.6 | |
| 2-Methylphenol | | 1.258 | 1.254 | -0.1 | |
| bis(2-Chloroisopropyl)Ether | | 2.623 | 2.723 | -3.8 | |
| 4-Methylphenol | | 1.270 | 1.286 | -1.3 | |
| N-Nitroso-Di-n-Propylamine | # | 1.134 | 1.199 | -5.7 | # |
| Hexachloroethane | | 0.597 | 0.627 | -5.0 | |
| Nitrobenzene | | 0.391 | 0.425 | -9.7 | |
| Isophorone | | 0.745 | 0.832 | -11.7 | |
| 2-Nitrophenol | * | 0.198 | 0.223 | -12.6 | * |
| 2,4-Dimethylphenol | | 0.345 | 0.347 | -0.6 | |
| Benzoic Acid | | 0.178 | 0.174 | 2.2 | |
| bis(2-Chloroethoxy)Methane | | 0.494 | 0.508 | -5.0 | |
| 2,4-Dichlorophenol | * | 0.286 | 0.314 | -9.8 | * |
| 1,2,4-Trichlorobenzene | | 0.297 | 0.332 | -11.8 | |
| Naphthalene | | 0.947 | 0.957 | -13.0 | |
| 4-Chloroaniline | | 0.386 | 0.431 | -11.7 | |
| Hexachlorobutadiene | * | 0.151 | 0.172 | -13.9 | * |
| 4-Chloro-3-Methylphenol | * | 0.306 | 0.324 | -5.3 | * |
| 2-Methylnaphthalene | | 0.611 | 0.675 | -10.5 | |
| Hexachlorocyclopentadiene | # | 0.163 | 0.186 | -14.1 | # |
| 2,4,6-Trichlorophenol | * | 0.358 | 0.405 | -13.1 | * |
| 2,4,5-Trichlorophenol | | 0.350 | 0.380 | -8.6 | |
| 2-Chloronaphthalene | | 1.031 | 1.127 | -9.3 | |
| 2-Nitroaniline | | 0.456 | 0.432 | 5.3 | |
| Dimethyl Phthalate | | 1.127 | 1.227 | -8.9 | |
| Acenaphthylene | | 1.574 | 1.700 | -8.0 | |
| 2,6-Dinitrotoluene | | 0.261 | 0.292 | -11.9 | |
| 3-Nitroaniline | | 0.284 | 0.281 | 1.1 | |
| Acenaphthene | * | 1.047 | 1.077 | -2.9 | * |
| 2,4-Dinitrophenol | # | 0.144 | 0.143 | 0.7 | # |
| 4-Nitrophenol | # | 0.115 | 0.085 | 26.1 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Instrument ID: INCOSE Calibration date: 04/10/90 Time: 2258

Lab File ID: SBT04119002 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.938 | 1.978 | -2.1 | * |
| bis(2-Chloroethyl)Ether | | 1.523 | 1.605 | -5.4 | |
| 2-Chlorophenol | | 1.349 | 1.432 | -6.2 | |
| 1,3-Dichlorobenzene | | 1.419 | 1.543 | -8.7 | |
| 1,4-Dichlorobenzene | * | 1.370 | 1.463 | -6.8 | * |
| Benzyl Alcohol | | 0.882 | 0.820 | 7.0 | |
| 1,2-Dichlorobenzene | | 1.309 | 1.413 | -7.9 | |
| 2-Methylphenol | | 1.253 | 1.258 | -0.4 | |
| bis(2-Chloroisopropyl)Ether | | 2.623 | 2.704 | -3.1 | |
| 4-Methylphenol | | 1.270 | 1.253 | 1.3 | |
| N-Nitroso-Di-n-Propylamine | # | 1.134 | 1.153 | -1.7 | # |
| Hexachloroethane | | 0.597 | 0.628 | -5.2 | |
| Nitrobenzene | | 0.391 | 0.426 | -9.0 | |
| Isophorone | | 0.745 | 0.821 | -10.2 | |
| 2-Nitrophenol | * | 0.198 | 0.222 | -12.1 | * |
| 2,4-Dimethylphenol | | 0.345 | 0.349 | -1.2 | |
| Benzoic Acid | | 0.178 | 0.141 | 20.8 | |
| bis(2-Chloroethoxy)Methane | | 0.484 | 0.508 | -5.0 | |
| 2,4-Dichlorophenol | * | 0.286 | 0.314 | -9.8 | * |
| 1,2,4-Trichlorobenzene | | 0.297 | 0.335 | -12.8 | |
| Naphthalene | | 0.847 | 0.919 | -8.5 | |
| 4-Chloroaniline | | 0.388 | 0.403 | -4.4 | |
| Hexachlorobutadiene | * | 0.151 | 0.176 | -16.6 | * |
| 4-Chloro-3-Methylphenol | * | 0.306 | 0.323 | -5.6 | * |
| 2-Methylnaphthalene | | 0.611 | 0.659 | -7.9 | |
| Hexachlorocyclopentadiene | # | 0.163 | 0.168 | -3.1 | # |
| 2,4,6-Trichlorophenol | * | 0.358 | 0.418 | -16.8 | * |
| 2,4,5-Trichlorophenol | | 0.350 | 0.381 | -8.9 | |
| 2-Chloronaphthalene | | 1.031 | 1.151 | -11.6 | |
| 2-Nitroaniline | | 0.456 | 0.448 | 1.8 | |
| Dimethyl Phthalate | | 1.127 | 1.260 | -11.8 | |
| Acenaphthylene | | 1.574 | 1.691 | -7.4 | |
| 2,6-Dinitrotoluene | | 0.261 | 0.304 | -16.5 | |
| 3-Nitroaniline | | 0.284 | 0.264 | 7.0 | |
| Acenaphthene | * | 1.047 | 1.109 | -5.9 | * |
| 2,4-Dinitrophenol | # | 0.144 | 0.107 | 25.7 | # |
| 4-Nitrophenol | # | 0.115 | 0.078 | 32.2 | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Instrument ID: INCOSE Calibration date: 04/11/90 Time: 1112

Lab File ID: SBT04119003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Phenol | * | 1.938 | 1.999 | -3.1 | * |
| bis(2-Chloroethyl)Ether | | 1.523 | 1.603 | -5.3 | |
| 2-Chlorophenol | | 1.349 | 1.431 | -6.1 | |
| 1,3-Dichlorobenzene | | 1.419 | 1.537 | -8.3 | |
| 1,4-Dichlorobenzene | * | 1.370 | 1.463 | -6.8 | * |
| Benzyl Alcohol | | 0.882 | 0.638 | (27.7) | |
| 1,2-Dichlorobenzene | | 1.309 | 1.407 | -7.5 | |
| 2-Methylphenol | | 1.253 | 1.216 | 3.0 | |
| bis(2-Chloroisopropyl)Ether | | 2.623 | 2.678 | -2.1 | |
| 4-Methylphenol | | 1.270 | 1.246 | 1.9 | |
| N-Nitroso-Di-n-Propylamine | # | 1.134 | 1.139 | -0.4 | # |
| Hexachloroethane | | 0.597 | 0.618 | -3.5 | |
| Nitrobenzene | | 0.391 | 0.445 | -13.8 | |
| Isophorone | | 0.745 | 0.838 | -12.5 | |
| 2-Nitrophenol | * | 0.198 | 0.221 | -11.6 | * |
| 2,4-Dimethylphenol | | 0.345 | 0.360 | -4.3 | |
| Benzoic Acid | | 0.178 | 0.138 | 22.5 | |
| bis(2-Chloroethoxy)Methane | | 0.484 | 0.523 | -8.1 | |
| 2,4-Dichlorophenol | * | 0.286 | 0.318 | -11.2 | * |
| 1,2,4-Trichlorobenzene | | 0.297 | 0.341 | -14.8 | |
| Naphthalene | | 0.847 | 0.947 | -11.8 | |
| 4-Chloroaniline | | 0.386 | 0.402 | -4.1 | |
| Hexachlorobutadiene | * | 0.151 | 0.182 | -20.5 | * |
| 4-Chloro-3-Methylphenol | * | 0.306 | 0.316 | -3.3 | * |
| 2-Methylnaphthalene | | 0.611 | 0.671 | -9.9 | |
| Hexachlorocyclopentadiene | # | 0.163 | 0.173 | -6.1 | # |
| 2,4,6-Trichlorophenol | * | 0.358 | 0.396 | -10.6 | * |
| 2,4,5-Trichlorophenol | | 0.350 | 0.369 | -5.4 | |
| 2-Chloronaphthalene | | 1.031 | 1.115 | -8.1 | |
| 2-Nitroaniline | | 0.456 | 0.423 | 7.2 | |
| Dimethyl Phthalate | | 1.127 | 1.221 | -8.3 | |
| Acenaphthylene | | 1.574 | 1.681 | -6.8 | |
| 2,6-Dinitrotoluene | | 0.261 | 0.285 | -9.2 | |
| 3-Nitroaniline | | 0.284 | 0.243 | 14.4 | |
| Acenaphthene | * | 1.047 | 1.086 | -3.7 | * |
| 2,4-Dinitrophenol | # | 0.144 | 0.106 | (26.4) | # |
| 4-Nitrophenol | # | 0.115 | 0.059 | (49.6) | # |

# SEMIVOLATILE CONTINUING CALIBRATION CHEC

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1C

Instrument ID: INCOSE Calibration date: 04/11/90 Time: 1112

Lab File ID: SBT04119003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.519 | -8.7 | |
| 2,4-Dinitrotoluene | 0.311 | 0.323 | -3.9 | |
| Diethylphthalate | 1.082 | 1.129 | -4.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.598 | -15.9 | |
| Fluorene | 1.118 | 1.136 | -1.6 | |
| 4-Nitroaniline | 0.230 | 0.132 | 42.6 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.124 | -3.3 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.513 | -10.8 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.261 | -18.6 | |
| Hexachlorobenzene | 0.221 | 0.280 | -21.2 | |
| Pentachlorophenol | * 0.140 | 0.153 | -9.2 | * |
| Phenanthrene | 0.980 | 1.032 | -5.3 | |
| Anthracene | 0.985 | 1.022 | -3.8 | |
| Di-n-Butylphthalate | 1.050 | 1.141 | -8.7 | |
| Fluoranthene | * 0.903 | 1.020 | -13.0 | * |
| Pyrene | 1.719 | 1.659 | 3.5 | |
| Butylbenzylphthalate | 0.664 | 0.604 | 9.0 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.274 | 7.1 | |
| Benzo(a)Anthracene | 1.213 | 1.230 | -1.4 | |
| Chrysene | 1.073 | 1.100 | -2.5 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.778 | 6.6 | |
| Di-n-Octyl Phthalate | * 1.349 | 1.269 | 5.9 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.218 | 7.3 | |
| Benzo(k)Fluoranthene | 1.227 | 1.102 | 10.2 | |
| Benzo(a)Pyrene | * 1.200 | 1.123 | 6.4 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.105 | 0.7 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.825 | 10.1 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.954 | -3.6 | |
| Nitrobenzene-d5 | 0.428 | 0.471 | -10.1 | |
| 2-Fluorobiphenyl | 1.114 | 1.248 | -12.0 | |
| Terphenyl-d14 | 1.069 | 1.108 | -3.6 | |
| Phenol-d5 | 1.686 | 1.777 | -5.4 | |
| 2-Fluorophenyl | 1.381 | 1.545 | -11.9 | |
| 2,4,6-Tribromophenol | 0.147 | 0.167 | -13.6 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1C

Instrument ID: INCOSE Calibration date: 04/13/90 Time: 0032

Lab File ID: 5BT04139001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.562 | -11.7 | |
| 2,4-Dinitrotoluene | 0.311 | 0.350 | -12.5 | |
| Diethylphthalate | 1.082 | 1.235 | -14.1 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.612 | -18.6 | |
| Fluorene | 1.118 | 1.168 | -4.5 | |
| 4-Nitroaniline | 0.230 | 0.209 | 9.1 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.111 | 7.5 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.514 | -11.0 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.261 | -18.6 | |
| Hexachlorobenzene | 0.231 | 0.278 | -20.4 | |
| Pentachlorophenol | * 0.140 | 0.146 | -4.3 | * |
| Phenanthrene | 0.980 | 1.032 | -5.3 | |
| Anthracene | 0.985 | 1.020 | -3.6 | |
| Di-n-Butylphthalate | 1.050 | 1.202 | -14.5 | |
| Fluoranthene | * 0.903 | 1.086 | -20.3 | * |
| Pyrene | 1.719 | 1.619 | 5.8 | |
| Butylbenzylphthalate | 0.664 | 0.660 | 0.6 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.246 | 16.6 | |
| Benzo(a)Anthracene | 1.213 | 1.258 | -3.7 | |
| Chrysene | 1.073 | 1.090 | -1.6 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.874 | -4.9 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.337 | 0.8 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.281 | 2.5 | |
| Benzo(k)Fluoranthene | 1.227 | 1.109 | 9.6 | |
| Benzo(a)Pyrene | * 1.200 | 1.149 | 4.3 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.115 | -0.2 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.887 | 3.4 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.957 | -3.9 | |
| Nitrobenzene-d5 | 0.428 | 0.459 | -7.2 | |
| 2-Fluorobiphenyl | 1.114 | 1.213 | -8.9 | |
| Terphenyl-d14 | 1.069 | 1.114 | -4.2 | |
| Phenol-d5 | 1.686 | 1.781 | -5.6 | |
| 2-Fluorophenyl | 1.381 | 1.537 | -11.3 | |
| 2,4,6-Tribromophenol | 0.147 | 0.180 | -22.5 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHEC

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Instrument ID: INCOSE Calibration date: 04/13/90 Time: 1303

Lab File ID: 5BT04139002 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.560 | -11.6 | |
| 2,4-Dinitrotoluene | 0.311 | 0.354 | -13.8 | |
| Diethylphthalate | 1.082 | 1.220 | -12.8 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.620 | -20.2 | |
| Fluorene | 1.118 | 1.195 | -6.9 | |
| 4-Nitroaniline | 0.230 | 0.182 | 20.9 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.134 | -11.7 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.505 | -9.1 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.259 | -17.7 | |
| Hexachlorobenzene | 0.231 | 0.268 | -16.0 | |
| Pentachlorophenol | * 0.140 | 0.160 | -14.3 | * |
| Phenanthrene | 0.990 | 1.029 | -5.0 | |
| Anthracene | 0.985 | 1.030 | -4.6 | |
| Di-n-Butylphthalate | 1.050 | 1.185 | -12.9 | |
| Fluoranthene | * 0.903 | 1.041 | -15.3 | * |
| Pyrene | 1.719 | 1.815 | -5.6 | |
| Butylbenzylphthalate | 0.664 | 0.671 | -1.1 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.166 | (43.7) | |
| Benzo(a)Anthracene | 1.213 | 1.225 | -1.0 | |
| Chrysene | 1.073 | 1.084 | -1.0 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.875 | -5.0 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.281 | 5.0 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.302 | 0.9 | |
| Benzo(k)Fluoranthene | 1.227 | 1.128 | 8.1 | |
| Benzo(a)Pyrene | * 1.200 | 1.177 | 1.9 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.188 | -6.7 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.883 | 3.8 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.936 | -1.6 | |
| Nitrobenzene-d5 | 0.428 | 0.464 | -8.4 | |
| 2-Fluorobiphenyl | 1.114 | 1.221 | -9.6 | |
| Terphenyl-d14 | 1.069 | 1.216 | -13.8 | |
| Phenol-d5 | 1.686 | 1.843 | -9.3 | |
| 2-Fluorophenyl | 1.381 | 1.567 | -13.5 | |
| 2,4,6-Tribromophenol | 0.147 | 0.182 | -23.9 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB1C

Instrument ID: INCOSE Calibration date: 04/16/90 Time: 2312

Lab File ID: 5BT04169004 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.554 | -11.2 | |
| 2,4-Dinitrotoluene | 0.311 | 0.330 | -6.1 | |
| Diethylphthalate | 1.082 | 1.257 | -16.2 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.634 | -22.9 | |
| Fluorene | 1.118 | 1.213 | -8.5 | |
| 4-Nitroaniline | 0.230 | 0.184 | 20.0 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.130 | -8.3 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.514 | -11.0 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.259 | -17.3 | |
| Hexachlorobenzene | 0.231 | 0.270 | -16.9 | |
| Pentachlorophenol | * 0.140 | 0.159 | -13.6 | * |
| Phenanthrene | 0.980 | 1.044 | -6.5 | |
| Anthracene | 0.985 | 1.032 | -4.8 | |
| Di-n-Butylphthalate | 1.050 | 1.255 | -19.5 | |
| Fluoranthene | * 0.903 | 1.114 | -23.4 | * |
| Pyrene | 1.719 | 1.581 | 8.0 | |
| Butylbenzylphthalate | 0.664 | 0.673 | -1.4 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.212 | 28.1 | |
| Benzo(a)Anthracene | 1.213 | 1.203 | 0.8 | |
| Chrysene | 1.073 | 1.049 | 2.3 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.853 | -2.4 | |
| Di-n-Octyl Phthalate | * 1.349 | 1.216 | 9.9 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.281 | 2.5 | |
| Benzo(k)Fluoranthene | 1.227 | 1.188 | 3.2 | |
| Benzo(a)Pyrene | * 1.200 | 1.187 | 1.1 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.166 | -4.8 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.935 | -1.9 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.967 | -5.0 | |
| Nitrobenzene-d5 | 0.428 | 0.242 | 43.5 | |
| 2-Fluorobiphenyl | 1.114 | 0.619 | 44.4 | |
| Terphenyl-d14 | 1.069 | 0.548 | 48.7 | |
| Phenol-d5 | 1.686 | 0.455 | 73.0 | |
| 2-Fluorophenyl | 1.381 | 0.399 | 71.1 | |
| 2,4,6-Tribromophenol | 0.147 | 0.043 | 70.8 | |

(1) Cannot be separated from Diphenylamine

- o Serial dilution Analysis
- o Detection limits
- o Sample quantitation

* - Quality Control Criteria were not met for this parameter.

Problems affecting data usability are addressed below.

**BLANKS**

Field and laboratory blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (mg/kg) |
|---|---|---|
| Calcium | 80 | 80 |
| Cobalt | 7.2 | 7.2 |

| Analyte | Maximum Concentration (mg/kg) | Action Level* (mg/kg) |
|---|---|---|
| Aluminum | 9.4 | 47.0 |
| Cadmium | 0.67 | 3.4 |
| Cobalt | 1.4 | 7 |
| Copper | 3 | 15 |
| Iron | 7.6 | 38 |
| Magnesium | 85.3 | 426.5 |
| Potassium | 21 | 105 |
| Sodium | 100 | 500 |
| Zinc | 1.8 | 9 |

* Actual level varies with individual sample moisture content and weight of sample digested.

No action was taken for aluminum, calcium or iron as all positive sample results for these analytes were above their respective action levels. Positive sample results within the action level for the other analytes mentioned are qualified "U", undetected.

**MATRIX SPIKES**

The matrix spike recovery for silver was below the 75% lower quality control limit. No positive results were reported for silver; non-detects are qualified as estimated, "UJ", and are biased low.

TINKER AIR FORCE BASE
CASE # TAFB1, SDG TAFB10

TABLE 1 - RECOMMENDATION SUMMARY

| | | | |
|---|---|---|---|
| Aluminum | $J^2$ | Magnesium | $A^1$ |
| Antimony | | Manganese | $J^2$ |
| Arsenic | | Mercury | |
| Barium | | Nickel | |
| Beryllium | | Potassium | $A^1$ |
| Cadmium | $A^1$ | Selenium | |
| Calcium | | Silver | $J^1$ |
| Chromium | $J^2$ | Sodium | $A^1$ |
| Cobalt | $A^1$ | Thallium | |
| Copper | $A^1$ | Vanadium | |
| Iron | $J^2$ | Zinc | $A^1$, $J^2$ |
| Lead | | Cyanide | |

If the field is left blank, the qualifier is A - Accept all data.

$A^1$ - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

$J^1$ - Estimate "UJ" nondetects because matrix spike recovery was < 75%.

$J^2$ - Estimate "J" positive results because laboratory duplicate RPD exceeded 35%.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H20964

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/21/90

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 5.9 | B | | P |
| 7440-36-0 | Antimony | 1.0 | U | | F |
| 7440-38-2 | Arsenic | 0.27 | U | | F |
| 7440-39-3 | Barium | 3.4 | U | | P |
| 7440-41-7 | Beryllium | 0.30 | U | | P |
| 7440-43-9 | Cadmium | 0.67 | B | | P |
| 7440-70-2 | Calcium | 7.9 | B | | P |
| 7440-47-3 | Chromium | 1.5 | U | | P |
| 7440-48-4 | Cobalt | 1.2 | U | | P |
| 7440-50-8 | Copper | 3.0 | B | | P |
| 7439-89-6 | Iron | 0.87 | U | | P |
| 7439-92-1 | Lead | 0.14 | U | | F |
| 7439-95-4 | Magnesium | 86.6 | U | | A |
| 7439-96-5 | Manganese | 0.74 | U | | P |
| 7439-97-6 | Mercury | 0.05U 0.09 | U | | CV |
| 7440-02-0 | Nickel | 1.9 | U | | P |
| 7440-09-7 | Potassium | 17.7 | B | | A |
| 7782-49-2 | Selenium | 0.39 | U | | F |
| 7440-22-4 | Silver | 1.4 | U | N | P |
| 7440-23-5 | Sodium | 100 | B | | A |
| 7440-28-0 | Thallium | 0.25 | U | | F |
| 7440-62-2 | Vanadium | 1.3 | U | | P |
| 7440-66-6 | Zinc | 1.8 | B | | P |
| | Cyanide | 0.21 | U | | C |

Color Before: COLORLESS Clarity Before: CLEAR Texture: WATER

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT NO. T-RB-Mar19A

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | -28.0 | B | | | 37.000 | B | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | 5.3 | U | 5.300 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.400 | U | F |
| Barium | -17.9 | B | -17.3 | B | 17.3 | U | 17.3 | U | -24.000 | B | P |
| Beryllium | 1.5 | U | 1.5 | U | 1.5 | U | | | 1.500 | U | P |
| Cadmium | 3.4 | B | 2.9 | U | 3.0 | B | | | 2.900 | B | P |
| Calcium | 57.0 | B | 76.0 | B | 75.0 | B | | | 80.000 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | | | 7.600 | U | P |
| Cobalt | 6.0 | U | 6.0 | U | 6.0 | B | | | 7.200 | B | P |
| Copper | 6.1 | U | 6.1 | U | 6.1 | U | | | 6.100 | U | P |
| Iron | -7.0 | B | -5.0 | B | -10.0 | B | | | 12.000 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | 0.7 | U | 0.700 | U | F |
| Magnesium | 439.8 | U | 439.8 | U | 439.8 | U | | | 439.800 | U | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | 3.7 | U | 3.700 | U | P |
| Mercury | 0.1 | U | 0.1 | U | 0.1 | U | | | 0.100 | U | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | | | 9.800 | U | P |
| Potassium | 80.3 | U | 80.3 | U | 80.3 | U | | | 80.300 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.000 | U | F |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | | | 7.400 | U | P |
| Sodium | 435.1 | U | 435.1 | U | 435.1 | U | | | 435.100 | U | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.300 | U | F |
| Vanadium | -7.0 | B | 6.5 | U | 6.5 | U | | | 6.500 | U | P |
| Zinc | 2.3 | U | 2.3 | U | 2.3 | U | | | 3.800 | B | P |
| Cyanide | 9.1 | U | 9.1 | U | | | | | 9.100 | U | C |
| | | | | | | | | | | | |

less than the CRQL were reported for 2-butanone and benzene as well.

A maximum concentration of 85 µg/l chloroform was detected in trip, field, rinsate and laboratory method blanks analysed with this sample set. No qualifications were made, however, as no positive sample results were reported for this compound.

The initial calibration average Relative Response Factor (RRF) for 2-butanone and the continuing calibration RF for 2-butanone were below the 0.05 quality control limit. The positive result for 2-butanone in sample T-GW-MW157A is qualified as estimated, "J".

Initial calibration Percent Relative Standard Deviations (%RSDs) for acetone, carbon disulfide and total xylenes exceeded the ±30% quality control criteria. No actions were taken as no positive results (after qualification for blank contamination) were reported for these compounds.

The Relative Percent Differences (RPDs) for 1,1-dichloroethene and benzene exceeded quality control limits for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis of sample T-GW-MW157A. No actions were taken as both the MS and MSD recoveries were acceptable.

No qualifications were made for Tentatively Identified Compounds (TICs), as no TICs were detected in any of the blanks analyzed with this sample set.

Semivolatile Fraction

The sample was determined to be free of environmental contamination.

A maximum concentration of 24 µg/l of the common blank contaminant bis(2-ethylhexyl)phthalate was detected in blanks analyzed with this sample set. No qualifications were made, however, as no positive sample results were reported for this compound.

The initial calibration %RSD for 3,3'-dichlorobenzidne exceeded the 30% quality control criteria. No qualifications were made as no positive results were reported for this compound.

Some continuing calibration %Ds for several compounds failed to meet the ±25% quality criteria. No actions were taken as no positive sample results were reported for the affected compounds. The positive result for diethylphthalate in sample T-GW-MW157A is

TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TAFB11

TABLE 1 - RECOMMENDATION SUMMARY

| TR # | Volatile | Semivolatile |
|---|---|---|
| T-GW-MW157A | J[1] | |

J[1] - Estimate "J" positive result for 2-butanone due to calibration response factor less than 0.050.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRBMAR23A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121313

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03289002

Level: (low/med) LOW Date Received: 03/26/90

% Moisture: not dec. ____ Date Analyzed: 03/28/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 85 | |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

B

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TFBMAR23A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121312

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04139003

Level: (low/med) LOW Date Received: 03/26/90

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRBMAR23A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121313

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04039001

Level: (low/med) LOW Date Received: 03/26/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Instrument ID: 4500A Calibration Date(s): 03/27/90 03/28/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 2VT03279015 RRF50 = 2VT03279004
RRF100= 2VT03279005 RRF150= 2VT03289001 RRF200= 2VT03279010

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 1.023 | 0.885 | 0.962 | 0.841 | 1.244 | 0.991 | 15.9# |
| Bromomethane | 1.122 | 0.953 | 1.027 | 0.990 | 1.277 | 1.074 | 12.1 |
| Vinyl Chloride * | 1.003 | 1.013 | 1.118 | 1.053 | 1.392 | 1.116 | 14.4* |
| Chloroethane | 0.707 | 0.693 | 0.737 | 0.691 | 0.909 | 0.747 | 12.3 |
| Methylene Chloride | 1.678 | 1.258 | 1.219 | 1.185 | 1.424 | 1.353 | 15.1 |
| Acetone | 1.638 | 0.895 | 0.992 | 0.813 | 1.015 | 1.071 | 30.6 |
| Carbon Disulfide | 2.834 | 1.986 | 2.086 | 1.945 | 3.875 | 2.545 | 32.5 |
| 1,1-Dichloroethene * | 1.334 | 1.115 | 1.126 | 1.082 | 1.426 | 1.217 | 12.6* |
| 1,1-Dichloroethane # | 3.574 | 3.188 | 3.227 | 3.108 | 3.671 | 3.354 | 7.5# |
| 1,2-Dichloroethene (total) | 1.571 | 1.276 | 1.224 | 1.201 | 1.662 | 1.387 | 15.4 |
| Chloroform * | 4.363 | 3.685 | 3.622 | 3.543 | 4.033 | 3.849 | 8.9* |
| 1,2-Dichloroethane | 2.878 | 2.665 | 2.772 | 2.604 | 3.023 | 2.788 | 6.0 |
| 2-Butanone | 0.101 | 0.096 | 0.106 | 0.086 | 0.114 | 0.101 | 10.4 |
| 1,1,1-Trichloroethane | 0.821 | 0.672 | 0.675 | 0.680 | 0.751 | 0.720 | 9.1 |
| Carbon Tetrachloride | 0.634 | 0.565 | 0.585 | 0.589 | 0.667 | 0.608 | 6.8 |
| Vinyl Acetate | 1.269 | 1.179 | 1.200 | 1.148 | 1.196 | 1.198 | 3.7 |
| Bromodichloromethane | 0.995 | 0.824 | 0.851 | 0.875 | 0.875 | 0.884 | 7.4 |
| 1,2-Dichloropropane * | 0.532 | 0.465 | 0.468 | 0.470 | 0.495 | 0.486 | 5.8* |
| cis-1,3-Dichloropropene | 1.024 | 0.899 | 0.917 | 0.933 | 0.977 | 0.950 | 5.3 |
| Trichloroethene | 0.518 | 0.425 | 0.419 | 0.438 | 0.502 | 0.460 | 10.0 |
| Dibromochloromethane | 0.725 | 0.649 | 0.667 | 0.687 | 0.707 | 0.687 | 4.4 |
| 1,1,2-Trichloroethane | 0.486 | 0.423 | 0.419 | 0.425 | 0.441 | 0.439 | 6.3 |
| Benzene | 1.196 | 0.949 | 0.909 | 0.894 | 1.051 | 1.000 | 12.6 |
| trans-1,3-Dichloropropene | 0.542 | 0.489 | 0.484 | 0.487 | 0.514 | 0.503 | 4.9 |
| Bromoform # | 0.541 | 0.561 | 0.600 | 0.575 | 0.605 | 0.576 | 4.6# |
| 4-Methyl-2-Pentanone | 1.432 | 1.277 | 1.406 | 1.204 | 1.229 | 1.310 | 7.9 |
| 2-Hexanone | 1.201 | 1.024 | 1.230 | 0.993 | 1.047 | 1.099 | 9.9 |
| Tetrachloroethene | 0.493 | 0.412 | 0.454 | 0.471 | 0.498 | 0.466 | 7.5 |
| 1,1,2,2-Tetrachloroethane # | 1.157 | 1.039 | 1.178 | 1.146 | 1.076 | 1.119 | 5.3# |
| Toluene * | 0.877 | 0.715 | 0.755 | 0.779 | 0.830 | 0.791 | 8.0* |
| Chlorobenzene # | 1.135 | 0.960 | 1.020 | 1.058 | 1.087 | 1.052 | 6.3# |
| Ethylbenzene * | 0.529 | 0.454 | 0.491 | 0.503 | 0.521 | 0.500 | 5.9* |
| Styrene | 1.137 | 0.947 | 1.030 | 1.044 | 1.026 | 1.037 | 6.5 |
| Xylene (total) | 0.594 | 0.277 | 0.305 | 0.277 | 0.286 | 0.348 | 39.7 |
| Toluene-d8 | 1.028 | 1.120 | 1.023 | 0.873 | 0.985 | 1.006 | 8.9 |
| BFB | 0.880 | 0.831 | 0.868 | 0.812 | 0.820 | 0.842 | 3.6 |
| 1,2-Dichloroethane-d4 | 2.222 | 2.528 | 2.352 | 1.906 | 2.256 | 2.253 | 10.1 |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Instrument ID: 4500A Calibration date: 03/29/90 Time: 0801

Lab File ID: 2VT03293001 Init. Calib. Date(s): 03/27/90 03/28/90

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) PACKED

RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.991 | 1.126 | -13.6 | # |
| Bromomethane | 1.074 | 1.190 | -10.8 | |
| Vinyl Chloride | 1.116 | 1.234 | -10.6 | * |
| Chloroethane | 0.747 | 0.804 | -7.6 | |
| Methylene Chloride | 1.353 | 1.284 | 5.1 | |
| Acetone | 1.071 | 1.323 | -23.5 | |
| Carbon Disulfide | 2.545 | 2.653 | -4.2 | |
| 1,1-Dichloroethene | 1.217 | 1.173 | 3.6 | * |
| 1,1-Dichloroethane | 3.354 | 3.290 | 1.9 | # |
| 1,2-Dichloroethene (total) | 1.387 | 1.377 | 0.7 | |
| Chloroform | 3.849 | 3.722 | 3.3 | * |
| 1,2-Dichloroethane | 2.788 | 2.819 | -1.1 | |
| 2-Butanone | 0.101 | 0.102 | -1.0 | |
| 1,1,1-Trichloroethane | 0.720 | 0.747 | -3.8 | |
| Carbon Tetrachloride | 0.608 | 0.637 | -4.8 | |
| Vinyl Acetate | 1.198 | 1.351 | -12.8 | |
| Bromodichloromethane | 0.884 | 0.918 | -3.8 | |
| 1,2-Dichloropropane | 0.486 | 0.502 | -3.3 | * |
| cis-1,3-Dichloropropene | 0.950 | 0.998 | -5.1 | |
| Trichloroethene | 0.460 | 0.470 | -2.2 | |
| Dibromochloromethane | 0.687 | 0.697 | -1.5 | |
| 1,1,2-Trichloroethane | 0.439 | 0.438 | 0.2 | |
| Benzene | 1.000 | 1.022 | -2.2 | |
| trans-1,3-Dichloropropene | 0.503 | 0.525 | -4.4 | |
| Bromoform | 0.576 | 0.575 | 0.2 | # |
| 4-Methyl-2-Pentanone | 1.310 | 1.414 | -7.9 | |
| 2-Hexanone | 1.099 | 1.226 | -11.6 | |
| Tetrachloroethene | 0.466 | 0.486 | -4.3 | |
| 1,1,2,2-Tetrachloroethane | 1.119 | 1.139 | -1.8 | # |
| Toluene | 0.791 | 0.794 | -0.4 | * |
| Chlorobenzene | 1.052 | 1.045 | 0.7 | # |
| Ethylbenzene | 0.500 | 0.502 | -0.4 | * |
| Styrene | 1.037 | 1.050 | -1.3 | |
| Xylene (total) | 0.348 | 0.256 | 26.4 | |
| Toluene-d8 | 1.006 | 1.068 | -6.2 | |
| BFB | 0.842 | 0.900 | -6.9 | |
| 1,2-Dichloroethane-d4 | 2.253 | 2.405 | -6.7 | |

# WATER VOLATILE MATRIX SPIKE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: NUS HOUSTON Contract: 9M41C

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Matrix Spike - EPA Sample No.: TGWMW157A

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC # | QC LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 0 | 59.0 | 118 | 61-145 |
| Trichloroethene | 50.0 | 17.1 | 64.4 | 95 | 71-120 |
| Benzene | 50.0 | 2.16 | 50.0 | 96 | 76-127 |
| Toluene | 50.0 | 0 | 45.2 | 90 | 76-125 |
| Chlorobenzene | 50.0 | 0 | 47.4 | 95 | 75-130 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 48.6 | 97 | 20 * | 14 | 61-145 |
| Trichloroethene | 50.0 | 58.4 | 83 | 10 | 14 | 71-120 |
| Benzene | 50.0 | 44.9 | 85 | 11 * | 11 | 76-127 |
| Toluene | 50.0 | 43.2 | 86 | 5 | 13 | 76-125 |
| Chlorobenzene | 50.0 | 44.6 | 89 | 7 | 13 | 75-130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: 1LF.C,TAFBE,T-GW-MW157A,L,W,H121309,V,EPA,NONE,4500A
5ML 45C(4MIN)-220C 8C/MIN

**BLANKS**

Field and laboratory blank analyses yielded the following contaminants in the maximum concentrations indicated:

| Analyte | Maximum Concentration (ug/l) | Action Level* (ug/l) |
|---|---|---|
| Aluminum | 46 | 230 |
| Barium | 455 | 2275 |
| Calcium | 40900 | 204500 |
| Chromium | 13.7 | 68.5 |
| Iron | 13 | 65 |
| Sodium | 9090 | 45450 |
| Lead | 1 | 5 |
| Magnesium | 19200 | 96000 |
| Potassium | 1090 | 5450 |
| Zinc | 7.8 | 39 |
| Copper | 18.1 | 90.5 |
| Mercury | 0.2 | 1.0 |
| Vanadium | 17.4 | 87 |
| Manganese | 3.7 | 18.5 |

Positive results within the action level are qualified "U", undetected.

**MATRIX SPIKE RECOVERIES**

Matrix spike Percent Recoveries (%Rs) for chromium and mercury exceeded the 125% upper quality control limit. No action was taken for chromium, however, because the concentration of chromium in the original sample was more than four times greater than the amount of chromium spiked. The post digestion spike sample analyzed for mercury also yielded an excessive recovery for this analyte. Positive results for mercury are qualified as estimated, "J", and are biased high.

The matrix spike %R for silver was below the lower 75% quality control limit. The non-detect reported for silver has consequently been qualified as estimated, "UJ", and is biased low.

**LABORATORY DUPLICATES**

Results for aluminum, mercury and cyanide exceeded the 35% RPD (Relative Percent Difference) laboratory duplicate quality control criteria for waters. No actions were taken for aluminum and cyanide as no positive sample results were reported for these

TINKER AIR FORCE BASE
CASE # TAFB1, SDG TAFB11

TABLE 1 - RECOMMENDATION SUMMARY

| | | | |
|---|---|---|---|
| Aluminum | A[1] | Magnesium | A[1] |
| Antimony | | Manganese | A[1] |
| Arsenic | | Mercury | A[1], J[1], J[3] |
| Barium | A[1] | Nickel | |
| Beryllium | | Potassium | A[1] |
| Cadmium | | Selenium | |
| Calcium | A[1] | Silver | J[2] |
| Chromium | A[1] | Sodium | A[1] |
| Cobalt | | Thallium | |
| Copper | A[1] | Vanadium | A[1] |
| Iron | A[1] | Zinc | A[1] |
| Lead | A[1] | Cyanide | |

If the field is left blank, the qualifier is A - Accept all data.

A[1] - Accept data, but raise sample detection limits (where appropriate) because of blank contamination.

J[1] - Estimate "J" positive results because matrix spike and associated post digestion spike recoveries were > 125%.

J[2] - Estimate "UJ" nondetects because matrix spike recovery was < 75%.

J[3] - Estimate "J" positive results because laboratory duplicate RPD was > 35%.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H21313

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/26/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 46.0 | [redacted] | | P |
| 7440-36-0 | Antimony | 5.3 | U | | F |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 17.3 | U | | P |
| 7440-41-7 | Beryllium | 1.5 | U | | P |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | 1090 | [redacted] | | P |
| 7440-47-3 | Chromium | 7.6 | U | | P |
| 7440-48-4 | Cobalt | 6.0 | U | | P |
| 7440-50-8 | Copper | 11.9 | [redacted] | | P |
| 7439-89-6 | Iron | 13.0 | [redacted] | E | P |
| 7439-92-1 | Lead | 0.70 | U | | F |
| 7439-95-4 | Magnesium | 440 | U | | A |
| 7439-96-5 | Manganese | 3.7 | [redacted] | | P |
| 7439-97-6 | Mercury | 0.15 | [redacted] | N* | CV |
| 7440-02-0 | Nickel | 9.8 | U | | P |
| 7440-09-7 | Potassium | 80.3 | U | | A |
| 7782-49-2 | Selenium | 2.0 | U | W | F |
| 7440-22-4 | Silver | 7.4 | U | N | P |
| 7440-23-5 | Sodium | 435 | U | | A |
| 7440-28-0 | Thallium | 1.3 | U | | F |
| 7440-62-2 | Vanadium | 6.5 | U | | P |
| 7440-66-6 | Zinc | 7.7 | [redacted] | | P |
| | Cyanide | 228 | U | * | C |

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT NO. T-RB-Mar23A

# 3
# BLANKS

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB11

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

| Analyte | Initial Calib. Blank (ug/L) | C | Continuing Calibration Blank (ug/L) 1 | C | 2 | C | 3 | C | Prepa-ration Blank | C | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.9 | U | 20.9 | U | | | | | 20.9 | U | P |
| Antimony | 5.3 | U | 5.3 | U | 5.3 | U | | | 5.3 | U | F |
| Arsenic | 1.4 | U | 1.4 | U | 1.4 | U | | | 1.4 | U | F |
| Barium | 17.3 | U | 17.3 | U | 17.3 | U | | | 17.3 | U | P |
| Beryllium | 1.5 | U | -1.5 | B | -1.5 | B | | | 1.5 | U | P |
| Cadmium | 2.9 | U | 2.9 | U | 2.9 | U | | | 2.9 | U | P |
| Calcium | 35.0 | B | 21.0 | B | | | | | 108.0 | B | P |
| Chromium | 7.6 | U | 7.6 | U | 7.6 | U | | | 9.4 | B | P |
| Cobalt | 6.0 | U | 6.0 | U | 6.0 | U | | | 6.0 | U | P |
| Copper | 11.9 | B | 10.7 | B | 10.2 | B | | | 11.9 | B | P |
| Iron | -17.0 | B | -12.0 | B | | | | | -11.0 | B | P |
| Lead | 0.7 | U | 0.7 | U | 0.7 | U | | | 0.7 | U | F |
| Magnesium | 439.8 | U | 439.8 | U | | | | | 439.8 | U | A |
| Manganese | 3.7 | U | 3.7 | U | 3.7 | U | | | 3.7 | U | P |
| Mercury | 0.1 | B | 0.2 | B | | | | | 0.1 | B | CV |
| Nickel | 9.8 | U | 9.8 | U | 9.8 | U | | | 9.8 | U | P |
| Potassium | 80.3 | U | 80.3 | U | | | | | 80.3 | U | A |
| Selenium | 2.0 | U | 2.0 | U | 2.0 | U | | | 2.0 | U | F |
| Silver | 7.4 | U | 7.4 | U | 7.4 | U | | | 7.4 | U | P |
| Sodium | 435.1 | U | -690.0 | B | | | | | 435.1 | U | A |
| Thallium | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | F |
| Vanadium | 6.5 | U | 6.5 | U | 6.5 | U | | | 6.5 | U | P |
| Zinc | -6.2 | B | -7.7 | B | -6.5 | B | | | 2.3 | U | P |
| Cyanide | 9.1 | U | 9.1 | U | | | | | 9.1 | U | C |

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

H21309A

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFB11

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

| Analyte | Control Limit %R | Spiked Sample Result (SSR) | C | Sample Result (SR) | C | Spike Added (SA) | %R | Q | M |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | NR |
| Antimony | | | | | | | | | NR |
| Arsenic | | | | | | | | | NR |
| Barium | | | | | | | | | NR |
| Beryllium | | | | | | | | | NR |
| Cadmium | | | | | | | | | NR |
| Calcium | | | | | | | | | NR |
| Chromium | | | | | | | | | NR |
| Cobalt | | | | | | | | | NR |
| Copper | | | | | | | | | NR |
| Iron | | | | | | | | | NR |
| Lead | | | | | | | | | NR |
| Magnesium | | | | | | | | | NR |
| Manganese | | | | | | | | | NR |
| Mercury | | 6.00 | | 1.20 | | 2.0 | 240.0 | | CV |
| Nickel | | | | | | | | | NR |
| Potassium | | | | | | | | | NR |
| Selenium | | | | | | | | | NR |
| Silver | | | | | | | | | NR |
| Sodium | | | | | | | | | NR |
| Thallium | | | | | | | | | NR |
| Vanadium | | | | | | | | | NR |
| Zinc | | | | | | | | | NR |
| Cyanide | | | | | | | | | NR |
| | | | | | | | | | |

Comments:

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRBMAF06A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB4

Matrix: (soil/water) SOIL Lab Sample ID: H119869

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SBP03319007

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. dec. Date Extracted: 03/15/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 03/31/90

GPC Cleanup: (Y/N) N pH: 5.7 Dilution Factor: 1.000

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.28 | 150 | J |
| 2. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.45 | 290 | BJ |
| 3. | 3404-78-2 | 2-HEXENE, 2,5-DIMETHYL- | 6.53 | 190 | J |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.02 | 170 | J |
| 5. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.17 | 270 | BJ |
| 6. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.33 | 680 | BJ |
| 7. | | ALDOL CONDENSATION PRODUCT | 7.52 | 3500 | A |
| 8. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.83 | 480 | BJ |
| 9. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.02 | 520 | J |
| 10. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.18 | 390 | BJ |
| 11. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 1600 | J |
| 12. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.85 | 340 | BJ |
| 13. | 74645-86-6 | 2-DECENE, 5-METHYL-, (Z)- | 11.45 | 180 | J |
| 14. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.27 | 280 | J |
| 15. | 57-10-3 | HEXADECANOIC ACID | 24.29 | 1200 | J |
| 16. | | UNKNOWN | 25.62 | 190 | J |
| 17. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.64 | 13000 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBMAR06A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-4

Matrix: (soil/water) SOIL Lab Sample ID: P134489

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403129001

Level: (low/med) LOW Date Received: 03/08/90

% Moisture: not dec. ____ Date Analyzed: 03/12/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 | SILANOL,TRIMETHYL- | 14.50 | 8.4 | J |
| 2. | | ALKYLTRISILOXANE ISOMER | 31.41 | 80 | BJX |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118432

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02219011

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBFEB17C

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118434

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VF02219013

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBFEB16B

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118518

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02229007

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. _____ Date Analyzed: 02/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

119236BLANK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: 119236BLANK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP03129001

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 03/12/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | KETONE | 4.68 | 480 | J |
| 2. | | ALKENE | 6.22 | 170 | J |
| 3. | | UNKNOWN | 6.30 | 120 | J |
| 4. | 926-82-9 | HEPTANE, 3,5-DIMETHYL- | 7.12 | 160 | J |
| 5. | | ALDOL CONDENSATION PRODUCT | 7.30 | 2500 | A |
| 6. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.63 | 220 | J |
| 7. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.82 | 180 | J |

B

1F

EPA SAMPLE NO.

119238BLANK

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: 119238BLANK

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02279011

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 02/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 108-87-2 | CYCLOHEXANE, METHYL- | 6.30 | 110 | J |
| 2. | 926-82-9 | HEPTANE, 3,5-DIMETHYL- | 7.20 | 120 | J |
| 3. | | ALDOL CONDENSATION PRODUCT | 7.37 | 1700 | A |
| 4. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.70 | 170 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.90 | 140 | J |
| 6. | 2216-33-3 | OCTANE, 3-METHYL- | 8.07 | 140 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TFBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118431

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02219010

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRBFEB17A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118430

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VP02219009

Level: (low/med) LOW Date Received: 02/19/90

% Moisture: not dec. _____ Date Analyzed: 02/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

EPA SAMPLE NO.

TFBFEB16A

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118516

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02279005

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: 5.7 Dilution Factor: 1.000

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 6.33 | 170 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.40 | 1600 | A |
| 3. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.87 | 280 | J |
| 4. | 57-10-3 | HEXADECANOIC ACID | 24.24 | 120 | J |
| 5. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.51 | 170 | J |
| 6. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1- | 20.19 | 1300 | J |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
TRBFEB16A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB3

Matrix: (soil/water) SOIL Lab Sample ID: H118517

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP02279007

Level: (low/med) LOW Date Received: 02/21/90

% Moisture: not dec. dec. Date Extracted: 02/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/27/90

GPC Cleanup: (Y/N) N pH: 5.6 Dilution Factor: 1.000

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 108-87-2 | CYCLOHEXANE, METHYL- | 6.30 | 120 | J |
| 2. | 926-82-2 | HEPTANE, 3,5-DIMETHYL- | 7.20 | 100 | J |
| 3. | | ALDOL CONDENSATION PRODUCT | 7.37 | 1600 | A |
| 4. | 3074-71-3 | HEPTANE,2,3-DIMETHYL- | 7.70 | 140 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.90 | 130 | J |
| 6. | 2216-33-3 | OCTANE, 3-METHYL- | 8.07 | 130 | J |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.87 | 190 | J |
| 8. | 123-79-5 | HEXANEDIOIC ACID, DIOXTYL ES | 28.51 | 240 | J |
| 9. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-,1- | 20.19 | 1700 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TRBMAR09A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB5

Matrix: (soil/water) SOIL  Lab Sample ID: H120295

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BP04119013

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH: 5.6  Dilution Factor: 1.000

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.50 | 470 | J |
| 2. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.40 | 190 | J |
| 3. | | ALDOL CONDENSATION PRODUCT | 7.57 | 2200 | A |
| 4. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.90 | 530 | BJ |
| 5. | 15869-93-9 | OCTANE, 3,5-DIMETHYL- | 7.98 | 290 | J |
| 6. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 8.08 | 780 | BJ |
| 7. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 900 | BJ |
| 8. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.95 | 260 | J |
| 9. | 57-10-3 | HEXADECANOIC ACID | 24.39 | 220 | J |
| 10. | | UNKNOWN | 28.31 | 200 | J |
| 11. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.74 | 24000 | J |
| 12. | | UNKNOWN | 33.22 | 1200 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBMAR08A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134731

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189001

Level: (low/med) LOW Date Received: 03/10/90

% Moisture: not dec. _____ Date Analyzed: 03/18/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 ✓ | SILANOL,TRIMETHYL | 14.40 | 6.8 | J |
| 2. | ✓ | ALKYLTRISILOXANE ISOMER | 31.36 | 70 | BJX |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TRBMAR09A

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-5

Matrix: (soil/water) SOIL Lab Sample ID: P134735

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V403189010

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/18/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 | SILANOL,TRIMETHYL | 14.40 | 15 | J |
| 2. | | ALKYLTRISILOXANE ISOMER | 31.26 | 90 | BJX |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRBMAB11A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB6

Matrix: (soil/water) WATER Lab Sample ID: H120326

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBF04039007

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. dec. Date Extracted: 03/20/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLANK

EPA SAMPLE NO.
TRBMAR12A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120470

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04039011

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 4127-47-3 ✓ | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.40 | 170 | J |
| 2. | 4032-93-3 ✓ | HEPTANE, 2,3,6-TRIMETHYL- | 7.27 | 160 | J |
| 3. | ✓ | ALDOL CONDENSATION PRODUCT | 7.52 | 2900 | A |
| 4. | 111-76-2 ✓ | ETHANOL, 2-BUTOXY- | 8.92 | 1400 | BJ |
| 5. | 74381-40-1 ✓ | PROPANOIC ACID, 2-METHYL-, 1 | 20.25 | 240 | J |

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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS BLANK

H120453SBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB7

Matrix: (soil/water) SOIL Lab Sample ID: H120989

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04049004

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 03/19/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/04/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.28 | 190 | J |
| 2. | 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.45 | 390 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.53 | 260 | J |
| 4. | 14919-01-8 | 3-OCTENE, (E)- | 6.73 | 160 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.03 | 220 | J |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.18 | 360 | J |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.35 | 870 | J |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.55 | 3800 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.87 | 600 | J |
| 10. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.05 | 670 | J |
| 11. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.23 | 490 | J |
| 12. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.00 | 760 | J |
| 13. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 10.12 | 220 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBMAR11A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-6

Matrix: (soil/water) SOIL Lab Sample ID: P134882

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: VIA03199003

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. Date Analyzed: 03/19/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 1.98 | 12 | J |
| 2. | UNKNOWN | 27.17 | 5.8 | BJ |
| 3. | ALKYLTRISILOXANE ISOMER | 28.07 | 110 | BJX |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRBMAR11A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-6

Matrix: (soil/water) SOIL Lab Sample ID: P134880

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: VIA03199001

Level: (low/med) LOW Date Received: 03/13/90

% Moisture: not dec. Date Analyzed: 03/19/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN("CARRY OVER") | 0.60 | 50 | BJZ |
| 2. | UNKNOWN | 1.98 | 16 | J |
| 3. 79-20-9 | ACETIC ACID,METHYL ESTER | 8.25 | 28 | J |
| 4. | ALKYLTRISILOXANE ISOMER | 28.07 | 110 | BJX |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TRBMAR12A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135084

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03209007

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | ~~1.88~~ | ~~16~~ | ~~BJ~~ |
| 2. | | ALKYLTRISILOXANE ISOMER | 28.12 | ~~81~~ | ~~BJX~~ |

rinsate blank; Should not have been qualified.

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TTBMAR13A

Lab Name: NUS-LSG Contract:

Lab Code: NUS Case No.: TAFB1 SAS No.: SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: P135088

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VIA03209011

Level: (low/med) LOW Date Received: 03/15/90

% Moisture: not dec. Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN (*CARRY-OVER*) | 0.57 | 14 | BJZ |
| 2. | | UNKNOWN | 1.88 | 12 | BJ |
| 3. | | ALKYLTRISILOXANE ISOMER | 28.16 | 87 | BJX |
| 4. | | ALKYLSILOXANE ISOMER | 30.26 | 12 | BJ |

B 1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: H120839SBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H121097

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04039015

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/03/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 763-93-9 | 3-HEXEN-2-ONE | 6.37 | 480 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.42 | 2100 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.78 | 450 | J |
| 4. | 922-28-1 | HEPTANE, 3,4-DIMETHYL- | 7.85 | 260 | J |
| 5. | 2216-34-4 | OCTANE, 4-METHYL- | 7.97 | 660 | J |
| 6. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.15 | 740 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
TRBMAR18A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: H120853

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069010

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.000

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 4127-47-3 | CYCLOPROPANE, 1,1,2,2-TETRAM | 6.50 | 180 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.55 | 770 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.90 | 240 | BJ |
| 4. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 8.08 | 340 | J |
| 5. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.27 | 380 | BJ |
| 6. | | UNKNOWN | 28.32 | 170 | J |
| 7. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.76 | 22000 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKAW

Lab Name: NUS-LSG Contract: _____

Lab Code: NUS Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB-7

Matrix: (soil/water) SOIL Lab Sample ID: VBLKAW

Sample wt/vol: 5.0 (g/mL) G Lab File ID: KIA03209001

Level: (low/med) LOW Date Received: 03/20/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN("CARRY OVER") | 0.60 | 71 | JZ |
| 2. | | UNKNOWN | 2.02 | 13 | J |
| 3. | | ALKYLTRISILOXANE ISOMER | 28.12 | 100 | JX |
| 4. | | ALKYLSILOXANE ISOMER | 30.26 | 35 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKBA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB8

Matrix: (soil/water) SOIL Lab Sample ID: VBLKBA

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2VT03203003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 76-13-1 | ETHANE, 1,1,2-TRICHLORO-1,2, | 11.85 | 20 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TTBMAR21A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121024

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03229003

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. _____ Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRBMAR20A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB9

Matrix: (soil/water) SOIL Lab Sample ID: H121019

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 6VP03229004

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. ____ Date Analyzed: 03/22/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TRBMAR21A

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB10

Matrix: (soil/water) SOIL  Lab Sample ID: H121079

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: SBP04139004

Level: (low/med) LOW  Date Received: 03/22/90

% Moisture: not dec. dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N  pH: 6.6  Dilution Factor: 1.000

Number TICs found: 13  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.28 | 130 | J |
| 2. | 625-65-0 | 2-PENTENE, 2,4-DIMETHYL- | 6.45 | 230 | J |
| 3. | 4032-93-3 | HEPTANE, 2,3,6-TRIMETHYL- | 7.35 | 300 | J |
| 4. | | ALDOL CONDENSATION PRODUCT | 7.55 | 3500 | A |
| 5. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.87 | 240 | BJ |
| 6. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.03 | 280 | BJ |
| 7. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.22 | 220 | BJ |
| 8. | | UNKNOWN | 9.02 | 3000 | J |
| 9. | 20019-64-1 | 2(5H)-FURANONE, 5,5-DIMETHYL | 9.90 | 280 | J |
| 10. | 1653-40-3 | 1-HEPTANOL, 6-METHYL- | 11.49 | 180 | J |
| 11. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.34 | 380 | J |
| 12. | 57-10-3 | HEXADECANOIC ACID | 24.37 | 440 | J |
| 13. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.67 | 150 | J |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H121077SBL1

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFB10

Matrix: (soil/water) SOIL  Lab Sample ID: H121863

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 5BF04119008

Level: (low/med) LOW  Date Received:

% Moisture: not dec.  dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N  pH:  Dilution Factor: 1.000

Number TICs found: 12  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 5.27 | 200 | J |
| 2. | 141-79-7 | 3-PENTEN-2-ONE, 4-METHYL- | 6.43 | 310 | J |
| 3. | 692-70-6 | 3-HEXENE, 2,5-DIMETHYL-, (E) | 6.53 | 230 | J |
| 4. | 14919-01-8 | 3-OCTENE, (E)- | 6.72 | 150 | J |
| 5. | 921-47-1 | HEXANE, 2,3,4-TRIMETHYL- | 7.02 | 200 | J |
| 6. | 1072-05-5 | HEPTANE, 2,6-DIMETHYL- | 7.18 | 340 | J |
| 7. | 3074-75-7 | HEXANE, 4-ETHYL-2-METHYL- | 7.35 | 850 | J |
| 8. | | ALDOL CONDENSATION PRODUCT | 7.53 | 4300 | A |
| 9. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.85 | 580 | J |
| 10. | 3074-77-9 | HEXANE, 3-ETHYL-4-METHYL- | 7.92 | 220 | J |
| 11. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.03 | 640 | J |
| 12. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.20 | 490 | J |

EPA SAMPLE NO

H120848SBL0

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: H121100

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5BP04069004

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 03/22/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 04/06/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.000

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 56336-06-2 | 2-CYCLOHEXEN-1-ONE, 3,5-DIME | 6.55 | 220 | J |
| 2. | | ALDOL CONDENSATION PRODUCT | 7.60 | 980 | A |
| 3. | 3074-71-3 | HEPTANE, 2,3-DIMETHYL- | 7.95 | 290 | J |
| 4. | 922-28-1 | HEPTANE, 3,4-DIMETHYL- | 8.02 | 170 | J |
| 5. | 2213-23-2 | HEPTANE, 2,4-DIMETHYL- | 8.13 | 430 | J |
| 6. | 52896-87-4 | HEPTANE, 4-(1-METHYLETHYL)- | 8.30 | 480 | J |
| 7. | 74381-40-1 | PROPANOIC ACID, 2-METHYL-, 1 | 20.40 | 210 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKCV

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB10

Matrix: (soil/water) SOIL Lab Sample ID: VBLKCV

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3VT03299002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 16.20 | 8.0 | J |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TFBMAR23A

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFB11

Matrix: (soil/water) WATER Lab Sample ID: H121312

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03289001

Level: (low/med) LOW Date Received: 03/26/90

% Moisture: not dec. ____ Date Analyzed: 03/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| | | | | |

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41 | SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): Y Barba

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | VOA | METALS | CYANIDE | TOC | pH (corrosivity) | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB209 | 4/3/90 | 2030 | | X | T-6W-SB209A | 5 | X | X | X | X | X | | |
| SB210 | 4/4/90 | 0330 | | X | T-6W-SB210A | 5 | X | X | X | X | X | | |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| Y Barba | 4/4/90 1000 | Fed Ex # 6425805013 | Federal Express | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNA | Inorganics Cyanide | TCLP VOC | TCLP | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB220 | 3/20/90 | 2030 | | X | T-SU-SB220W | 2 | | | | 1 | 1 | | |
| SB218 | 3/20/90 | 2130 | | X | T-SU-SB218W | 2 | | | | 1 | 1 | | |
| SB220 | 3/20/90 | 2030 | | X | T-SU-SB220A | 3 | 1 | 1 | 1 | | | | |
| SB220 | 3/20/90 | 2050 | | X | T-SU-SB220B | 3 | 1 | 1 | 1 | | | | |
| SB220 | 3/20/90 | 2100 | | X | T-SU-SB220C | 3 | 1 | 1 | 1 | | | | |
| SB218 | 3/20/90 | 1900 | | X | T-SU-SB218A | 3 | 1 | 1 | 1 | | | | |
| SB218 | 3/20/90 | 1900 | | X | T-SU-SB218X | 3 | 1 | 1 | 1 | | | | Dupe |
| SB218 | 3/20/90 | 2010 | | X | T-SU-SB218B | 3 | 1 | 1 | 1 | | | | |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| [signature] | 3/22/90 1500 | Fed ex # 6820028670 | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41

SITE NAME: TAFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | VOC | BNA | metals + cyanide | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB208 | 3/13/90 | 0115 | | X | T-Su-SB208Z | 3 | X | X | X | | | | 5' |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| [signature] | 3/14/90 1930 | [signature] | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41 | SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | VOC | BN/A | METALS + CYANIDE | TOC | CEC | pH/CONDUCTIVITY | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB209 | 3/13/90 | 2010 | | X | T-$4-$B 209C | 5 | X | X | X | X | X | X | 20' |
| SB210 | 3/14/90 | 0900 | | X | T-$4-$B 210A | 3 | X | X | X | | | X | 5' |
| SB210 | 3/14/90 | 0920 | | X | T-$4-$B 210B | 3 | X | X | X | | | X | 10' |
| SB210 | 3/14/90 | 0320 | | X | T-$4-$B 210C | 3 | X | X | X | | | X | 20' |
| | | | | | | | | | | | | | |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| [signature] | 3/14/90 2015 | Fed Ex # 4258050 | Fed Ex | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| | | | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41

SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | PNA | METALS | CYANIDE | pH/CONSIST | TOC | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 3/14/90 | 1115 | | X | T-RB-MAR14A | 5 | X | X | X | X | X | | |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| [signature] | 3/14/90 1000 | Fed Ex # 6425805013 | Federal Express | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| | | | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41

SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | TCL VOCs | TCL BNAs | TAL Inorganic + Cyanide | pH/Corrosivity | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $B202 | 03/07/90 | 0905 | | X | T-$U-$B202A | 3 | X | X | X | X | | | Sample Depth - 5' |
| $B202 | 3/7/90 | 0918 | | X | T-$U-$B202B | 3 | X | X | X | X | | | Sample Depth 10' |
| $B202 | 3/7/90 | 1105 | | X | T-$U-$B202C | 3 | X | X | X | X | | | Sample Depth 20' |
| $B203 | 3/7/90 | 1430 | | X | T-$U-$B203A | 3 | X | X | X | X | | | " " 5' |
| $B203 | 3/7/90 | 1443 | | X | T-$U-$B203B | 3 | X | X | X | X | | | " " 10' |
| $B203 | 3/7/90 | 1520 | | X | T-$U-$B203C | 3 | X | X | X | X | | | " " 20' |
| $B204 | 3/7/90 | 1820 | [illegible] | X | T-$U-$B204A | 3 | X | X | X | X | | | " " 5' |
| $B204 | 3/7/90 | 1838 | X | | T-$U-$B204X | 3 | X | X | X | X | | | " " 10 Field Duplicate |
| $B204 | 3/7/90 | 1838 | X | | T-$U-$B204B | 3 | X | X | X | X | | | 10' [illegible] |
| $B204 | 3/7/90 | 1917 | X | | T-$U-$B204C | 3 | X | X | X | X | | | 19.5 [illegible] |
| $B202 | 3/7/90 | 1207 | | X | T-GW-$B202A | 6 | X | X | X | X | | | |
| $B202 | 3/7/90 | 1630 | | X | T-GW-$B202X | 6 | X | X | X | X | | | Field Duplicate |
| RB | 3/7/90 | 1700 | | X | T-RB-MAR07A | 6 | X | X | X | X | | | Rinsate - Hold - |
| TB | 3/7/90 | 1800 | | X | T-TB-MAR07A | 2 | X | | | | | | Trip Blank |

| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| [signature] | 03/07/90 1935 | Fed-X 6425804976 | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| | | | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | Hold Rinsate for [illegible] are required to run only [illegible] | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41 | SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): Russell Thomas

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNA | Inorganics Cyanide | TCL VOC | TCLP | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-216 | 3/20/90 | 1915 | | X | T-SU-SB216A | 3 | 1 | 1 | 1 | | | | |
| SB-216 | 3/20/90 | 2000 | | X | T-SU-SB216B | 3 | 1 | 1 | 1 | | | | |
| SB-216 | 3/21/90 | 2120 | | X | T-SU-SB216C | 3 | 1 | 1 | 1 | | | | |
| SB-216 | 3/21/90 | 2000 | | X | T-SU-SB216X | 3 | 1 | 1 | 1 | | | | |
| SB 217 | 3/20/90 | 2055 | | X | T-SU-SB217A | 3 | 1 | 1 | 1 | | | | |
| SB-217 | 3/20/90 | 2125 | | X | T-SU-SB217B | 3 | 1 | 1 | 1 | | | | |
| SB-217 | 3/20/90 | 2325 | | X | T-SU-SB217C | 3 | 1 | 1 | 1 | | | | |
| SB-216 | 3/20/90 | 2100 | | X | T-SU-SB216W | 2 | | | | 1 | 1 | | |
| SB 217 | 3/21/90 | 2215 | | X | T-SU-SB217W | 2 | | | | 1 | 1 | | |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| Russell Thomas | 3/21/90 1300 | Fedex #6425805002 | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS: | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M:41 | SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE):

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | BNA | PH/Corrosivity | Cyanide | TOC | metals | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SBZ13 | 3/14/90 | 1920 | | X | T-GW-SBZ13 | 5 | 1 | 1 | 1 | 1 | 1 | | |
| SBZ13 | 3/14/90 | 1920 | | X | T-GW-SBZ13X | 5 | 1 | 1 | 1 | 1 | 1 | | Dupe |

| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| Russell Lane | 3/19/90 1500 | Fed ex # 6425805024 | Fed ex | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |

NUS 440 34 0484

**NUS CORPORATION**

**CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE):

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | BNA | PH/Corrosivity | Cyanide | VOA | TOC | Metals | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB211 | 3/1[illegible]/90 | 2[illegible] | | X | T-GW-SB211A | 7 | 1 | 1 | 1 | 2 | 1 | 1 | |
| SB212 | 3/1[illegible]/90 | 1420 | | X | T-GW-SB212A | 7 | 1 | 1 | 1 | 2 | 1 | 1 | |
| TB | 3/1[illegible]/90 | 1200 | | X | T-TB-MAR19A | 2 | | | | 2 | | | trip blank |

| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| [illegible] | 3/1[illegible] 1[illegible]00 | [illegible] 642[illegible]80[illegible]24 | [illegible] | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41 | SITE NAME: TINKER AFB (Plating Sump)

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCL VOCs | TCL BNAs | TAL "CYANIDE" EVOLANCE | PH * | CEC | TOC | REMARKS (* TAKEN FROM SAME BOTTLE OR ANOTHER SPLIT) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB106 | 02/17/90 | | X | | T-SU-SB106A | 3 | X | X | X | X | | | |
| SB106 | 02/17/90 | | X | | T-SU-SB106X | 3 | X | X | X | X | | | FIELD DUPLICATE OF SB106A |
| SB107 | 02/17/90 | | | X | T-SU-SB107A | 3 | X | X | X | X | | | |
| SB107 | 02/17/90 | | | X | T-SU-SB107B | 3 | X | X | X | | | | |
| SB107 | 02/17/90 | | X | | T-SU-SB107C | 3 | X | X | X | | | | SAMPLE SPLIT W/ ODH and HAZWRAP |
| SB108 | 02/17/90 | | X | X | T-SU-SB108A | 3 | X | X | X | X | | | |
| SB108 | 02/17/90 | | X | X | T-SU-SB108B | 3 | X | X | X | | | | |
| SB109 | 02/17/90 | | | X | T-SU-SB109A | 3 | X | X | X | X | | | |
| SB109 | 02/17/90 | | | X | T-SU-SB109B | 3 | X | X | X | | | | |
| SB109 | 02/17/90 | | | X | T-SU-SB109C | 3 | X | X | X | | | | |
| SB111 | 02/17/90 | | X | | T-SU-SB111A | 5 | X | X | X | X | X | X | |
| SB111 | 02/17/90 | | X | | T-SU-SB111X | 3 | X | X | X | X | | | FIELD DUPLICATE OF SB111A |
| SB111 | 02/17/90 | | | X | T-SU-SB111B | 3 | X | X | X | | | | |
| SB111 | 02/17/90 | | X | | T-SU-SB111C | 3 | X | X | X | | | | SAMPLE SPLIT W/ ODH & HAZWRAP |

| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| [signature] | 02/17/90 1600 | FED-X #6425804980 | FED-X #6425804980 | 2/21/90 | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS: | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41 | SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): James Waddell

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | TCL VOCs | TCL BN/As | TAL Inorganics | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB101 | 02/15/90 | 1905 | X | | T-SU-SB101Y | 3 | X | X | X | | | | SPLIT SAMPLE NO. |
| | | | | | | | | | | | | | T-SU-SB101B ALSO SPLIT |
| | | | | | | | | | | | | | W STATE OF OKLAHOMA |
| | | | | | | | | | | | | | # T-SU-SB101Z |

| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
|---|---|---|---|---|---|
| James Waddell | 02/15/90 1112 | FEDX #491540120l | FEDX #491540120l | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
| | | | | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCL VOCs | TCL BNAs | TAL Inorganics + CYANIDE | pH/Corrosivity | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RB | 02/16/90 | 1832 | | X | T-RB-FEB16A | 6 | X | X | X | X | | | Rinsate Blank off s.s. trowel |
| FB | 02/16/90 | 1835 | | X | T-FB-FEB16A | 6 | X | X | X | X | | | Field Blank of HPLC Lot # 891159 |
| TB | 02/16/90 | 1900 | | X | T-TB-FEB16 A | 2 | X | | | | | | |
| TB | 02/16/90 | 1901 | | X | T-TB-FEB 16 B | 2 | X | | | | | | |
| TB | 02/16/90 | 1902 | | X | T-TB-FEB16 C | 2 | X | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | —SUPPLEMENTAL CofC— |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| [signature] | 02/16/90 2000 | FED-X #6425804965 | FED-X #6425804965 | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41
SITE NAME: TINKER AFB (Plating Sump)
SAMPLERS (SIGNATURE): Randall D. Hall

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCL VOC | TCL BN/A | TAL Inorganics + Cyanide | PH/Conductivity | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB105 | 2/16/90 | 1000 | X | | T-$U-$B105Y | 3 | X | X | X | X | | | SPLITS FROM NUS SAMPLE NUMBER T-$U-$B105C |
| SB107 | 2/17/90 | 1110 | X | | T-$U-$B107Y | 3 | X | X | X | X | | | T-$U-$B107C and |
| SB111 | 2/17/90 | 1308 | X | | T-$U-$B111Y | 3 | X | X | X | X | | | T-$U-$B111C |
| TB | 2/17/90 | 1530 | | | T-TB-FEB17A | 2 | X | [redacted] | [redacted] | | | | TRIP BLANK |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| Randall D. Hall | 02/17/90 1600 | FEDX #6425805061 | FEDX #6425805061 | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

NOTE FED-X # IS WRONG!!!

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41 | SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): James Wedekind

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCL VOCs | TAL + Cyanide Inorganics | TCL BNA's | pH | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB116 | 2/16/90 | 1715 | X | | T-$11-$B116A | 3 | X | X | X | X | | | |
| SB116 | 2/16/90 | 1725 | X | | T-$11-$B116B | 3 | X | X | X | X | | | |
| SB116 | 2/16/90 | 1730 | X | | T-$11-$B116C | 3 | X | X | X | X | | | |
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| RELINQUISHED BY (SIGNATURE): Randy Hulsh | DATE/TIME: 2/16/90 1930 | RECEIVED BY (SIGNATURE): FEDX # 6425805083 | RELINQUISHED BY (SIGNATURE): FEDX # 6425805083 | DATE/TIME: | RECEIVED BY (SIGNATURE): |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |

NUS 440 34 0484

**NUS CORPORATION** — *CHAIN OF CUSTODY RECORD*

PROJECT NO.: 4M41

SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNAs | Metals | Cyanide | [illegible] + TOC | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB215 | 3/19/90 | 2230 | x | | T-GW-SB215X | 4 | | 1 | 1 | 1 | 1 | | |
| SB214 | 3/19/90 | 2200 | | x | T-GW-SB214A | 4 | | 1 | 1 | 1 | 1 | | |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| [signature] | 03/20/90 1200 | 6425805035 Fed-X | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41 | SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): Russell Ware

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNA | Cyanide | Metals | PH TOC Corrosivity | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RB | 3/22/90 | 1200 | | X | T-RBMAR22A | 6 | 2 | 1 | 1 | 1 | 1 | |
| BB221 | 3/22/90 | 1930 | | X | T-GW-BB221A | 6 | 2 | 1 | 1 | 1 | 1 | |
| TB | 3/22/90 | 1200 | | X | T-TBMAR23A | 2 | 2 | | | | | trip blank |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| Russell Ware | 3/23/90 1500 | Fedex # 6820027666 | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

| PROJECT NO.: | SITE NAME: |
|---|---|
| 4M41 | Tinker AFB |

SAMPLERS (SIGNATURE): Russell Vance

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNA | Inorganics Cyanide | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB218 | 3/21/90 | 2010 | | X | T-SW-SB2184 | 3 | 1 | 1 | 1 | | | | |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| Russell Vance | 3/23/90 1500 | Fed ex #6820028655 | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO: 4M41

SITE NAME: TAFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO | DATE | TIME | COMP | GRAB | STATION LOCATION | NO OF CONTAINERS | VOC | BNA | Metals + Cyanide | pH | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB208 | 3/13/90 | 0115 | X | | T-SU-SB208Y | 3 | X | X | X | X | | | Depth 5' SPLIT w/ T-SU-SB208A |
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|---|---|---|---|---|---|
| [signature] | 3/14/90 0830 | Fed X-6425805116 | Fed-X | | |
| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) | RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED BY (SIGNATURE) |
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| RELINQUISHED BY (SIGNATURE) | DATE/TIME | RECEIVED FOR LABORATORY BY (SIGNATURE) | DATE/TIME | REMARKS | |
| | | | | | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOCs | BNAs | Metals | Cyanide | pH/Corrosivity | TOC | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB215 | 3/19/90 | 2230 | X | | T-GW-SB215Y | 6 | X | X | X | X | X | X | Take TOC from pH/Corrosivity |
| SB215 | 3/19/90 | 1930 | X | | T-SU-SB215Y | 3 | X | X | X | X | | | |
| SB212 | 3/19/90 | 1030 | X | | T-SU-SB212Y | 3 | X | X | X | X | | | |
| TB | 3/21/90 | 1200 | | X | T-TB-MAR21A | 2 | X | | | | | | Trip Blank |
| | | | | | | | | | | | | | |
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|---|---|---|---|---|---|
| [signature] | 3/21/90 1300 | FLX #6820528644 | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: TINKER AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCL VOCs | TCL BNAs | TAL Cyanide Inorganics | pH/Corrosivity | Cyanide * | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB203 | 3/8/90 | 230 | X | | T-GW-$B203 Z | 6 | X | X | X | X | X | | SPLIT w/ T-GW-SB203A |
| TB | 3/8/90 | 1800 | | X | T-TB-MAR08 Z | 2 | X | | | | | | |
| $B204 | 3/8/90 | 1917 | X | | T-$U-$B204Z | 3 | X | X | X | X | | | SPLIT w/ ~~T-$B~~ GW T-$U-SB204C |
| $B201 | 3/6/90 | 1540 | X | | T-$U-$B201Z | 3 | X | X | X | X | | | SPLIT w/ T-$U-$B201B |

* separate container for water

| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
|---|---|---|---|---|---|
| [signature] | 03/09/90 1030 | Myrtle Smith | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |

NUS 440 34 0484

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41 | SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): Russell Vance

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | VOC | BNA | metal | cyanide | PH TOC, Corrosivity | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW157 | 3/23/90 | 1900 | | X | T-GW-MW157A | 6 | 2 | 1 | 1 | 1 | 1 | | |
| FB | 3/29/90 | 1815 | | X | T-FBMAR23A | 6 | 2 | 1 | 1 | 1 | 1 | | potable water |
| RB | 3/23/90 | 1150 | | X | T-RBMAR23A | 2 | 2 | | | | | | Rinse Blank VOC |
| TB | 3/24/90 | 2200 | | X | T-TBMAR23B | 2 | 2 | | | | | | Trip Blank |
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|---|---|---|---|---|---|
| Russell Vance | 3/24/90 1500 | Fed ex #682002871 4 | | | |
| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): | RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED BY (SIGNATURE): |
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| RELINQUISHED BY (SIGNATURE): | DATE/TIME: | RECEIVED FOR LABORATORY BY (SIGNATURE): | DATE/TIME: | REMARKS: | |
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NUS 440 34 0484

# CHAIN OF CUSTODY

**NUS CORPORATION**
HOUSTON ANALYTICAL LABORATORY
900 GEMINI AVENUE, CLEAR LAKE CITY
HOUSTON, TEXAS 77058-2798
713-488-1810

| REPORT TO: | INVOICE TO: | ☐ CHECK BOX |
|---|---|---|
| COMPANY NUS Corp | COMPANY | IF INVOICE TO ADDRESS AND REPORT TO ADDRESS ARE SAME |
| ADDRESS 800 Oak Ridge TPKE C-200 | ADDRESS | |
| CITY Oak Ridge STATE TN ZIP 37830 | CITY STATE ZIP | P.O. # |
| ATT. J. Wedekind PHONE # 615-483-9900 | ATT. PHONE # | RELEASE # |

| PROJECT NAME/SITE NAME Tinker AFB | CLIENT COMMENTS | NUS COMMENTS & SAMPLE #'S |
|---|---|---|
| | | |
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**WARRANTY AND LIMITATION OF LIABILITY**

Any service or work performed by NUS Laboratory Services Group is expressly subject to the following provision and NUS does not agree to any provision that is in conflict.

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| | SAMPLE NUMBER | DATE | TIME | COMPOSITE | GRAB | SAMPLE SOURCE & DESCRIPTION | NUMBER CONTAINERS | REQUESTED ANALYSIS: VOCs | BNA | Metals | Cyanide | pH Corrosivity | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ✓ | 3/14/90 | 2230 | X | | T-GW-$B215Z | 6 | X | X | X | X | X | |
| 2 | ✓ | 3/12/90 | 1030 | X | | T-SD-$B212Z | 3 | X | X | X | X | X | |
| 3 | | 3/14/90 | 1930 | X | | T-SD-$B215Z | 3 | X | X | X | X | X | |
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| RELINQUISHED BY: SIGN | DATE/TIME | RECEIVED BY: SIGN | DATE/TIME | RELINQUISHED BY: SIGN | DATE/TIME | RECEIVED BY: SIGN |
|---|---|---|---|---|---|---|
| Tammie Eckhardt | 1400 | Timothy Spencer SEL | | | | |
| RELINQUISHED BY SIGN | DATE/TIME | RECEIVED FOR LABORATORY BY: SIGN | DATE/TIME | SAMPLE CONDITION | | |
| CARRIER CO | | AIR BILL NO. | | CARRIER PHONE # | | DATE RESULTS REPORTED BY: SIGN DATE/TIME |

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Volatile Fraction

Some initial and continuing calibration Response Factors (RFs) for 2-butanone were less than the 0.050 quality control limit. Nondetects for this compound in all affected samples are qualified as rejected, "R".

Initial calibration Percent Relative Standard Deviations (%RSDs) for acetone, cis-1,3-dichloropropene, carbon disulfide, chloroethane, and total xylenes exceeded the 30% quality control limit. No actions were required as no positive results not previously qualified as undetected, "U", because of blank contamination were reported for these compounds in any of the affected samples.

The RFs for 2-butanone, 4-methyl-2-pentanone, and 2-hexanone were not reported for one continuing calibration. Nondetected results for these compounds in the three affected samples are qualified as rejected, "R".

Some continuing calibration Percent Diiferences (%Ds) for 2-butanone, 4-methyl-2-pentanone, total xylenes, acetone, and 2-hexanone exceeded 50%. Positive results and nondetects for these compounds not previously qualified as undetected, "U", because of blank contamination are qualified as estimated, "J" and "UJ", respectively.

The continuing calibration %Ds for several compounds exceeded the 25% quality control limit during some calibrations. No action was necessary as no positive results not previously qualified as undetected, "U", due to blank contaminantion were reported for the affected compounds in affected samples.

The following contaminants were detected in laboratory method blanks analyzed with this sample set.

| Common Contaminant | Maximum Concentration (µg/L) |
|---|---|
| methylene chloride | 2 |
| acetone | 220 |
| 2-butanone | 7 |

| Other Contaminant | Maximum Concentration (µg/L) |
|---|---|
| chloroform | 3 |
| 4-methyl-2-pentanone | 3 |

Action levels of ten times the maximum amount of common contaminants and five times the maximum amount of the other contmainants were used to evaluate the data. Dilution factors were considered prior to application of all action levels. Sample contaminant concentrations reported at levels below the Contract Required Quantitation Limit (CRQL) have been deleted (i.e. crossed out and replaced by the CRQL) and qualified as undetected, "U". Sample contaminant concentrations above the CRQL and within the action level remain as reported followed by the undetected qualifier, "U".

The Matrix Spike Duplicate (MSD) %R for 4-nitrophenol marginally exceeded the upper quality control limit. No action was taken as no positive results was reported for this compound in the unspiked sample.

Positive results for several compounds in some samples are qualified as estimated, "J", because of detection at concentrations less than the CRQL.

Several Tentitively Identified Compounds (TICs) were detected in the blanks analyzed with this sample group. Sample results reported for these TICs detected at concentrations less than five times the maximum amount detected in blanks have been deleted (crossed out) on the Form I SV-TIC reports.

Please do not hesitate to contact me if you have any questions regarding this review.

$A^2$ - Accept data, but raise detection limit for 4-methyl-2-pentanone because of blank contamination.

$A^3$ - Accept data, but raise detection limit for 2-butanone because of blank contamination.

$A^4$ - Accept data, but raise detection limit for pyrene because of blank contamination.

$A^5$ - Accept data, but raise detection limit for bis(2-ethylhexyl)phthalate because of blank contamination.

$J^1$ - Estimate "UJ" nondetects for total xylenes, 2-hexanone, and/or 4-methyl-2-pentanone because of continung calibration %D > 50.

$J^2$ - Estimate "J" positive results for total xylenes because of continuing calibration %D > 50.

$J^3$ - Estimate "J" positive results for compounds detected at concentrations less than the CRQL.

$J^4$ - Estimate "UJ" nondetects for benzoic acid and 2,4-dinitrophenol because of continuing calibration %D > 50.

$R^1$ - Reject "R" nondetects for 2-butanone because of calibration response factor < 0.050.

$R^2$ - Reject "R" nondetects for 2-butanone, 2-hexanone, and 4-methyl-2-pentanone because of unreported continuing calibration response factor.

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB201W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120302

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03199003

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 270 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSTSB203W15

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120304

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03199005

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 310 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 7 | |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB204W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120306

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03209001

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 340 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 7 | J |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB206W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120308

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03209003

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L 0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 380 | |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 25 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB08W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121270

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VF03279014

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 74-87-3 | Chloromethane | 10 U |
| 74-83-9 | Bromomethane | 10 U |
| 75-01-4 | Vinyl Chloride | 10 U |
| 75-00-3 | Chloroethane | 10 U |
| 75-09-2 | Methylene Chloride | 5 U |
| 67-64-1 | Acetone | 1200 U |
| 75-15-0 | Carbon Disulfide | 5 U |
| 75-35-4 | 1,1-Dichloroethene | 5 U |
| 75-34-3 | 1,1-Dichloroethane | 5 U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 U |
| 67-66-3 | Chloroform | 5 U |
| 107-06-2 | 1,2-Dichloroethane | 5 U |
| 78-93-3 | 2-Butanone | 10 U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 U |
| 56-23-5 | Carbon Tetrachloride | 5 U |
| 108-05-4 | Vinyl Acetate | 10 U |
| 75-27-4 | Bromodichloromethane | 5 U |
| 78-87-5 | 1,2-Dichloropropane | 5 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 U |
| 79-01-6 | Trichloroethene | 5 U |
| 124-48-1 | Dibromochloromethane | 5 U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 U |
| 71-43-2 | Benzene | 5 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 U |
| 75-25-2 | Bromoform | 5 U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 U |
| 591-78-6 | 2-Hexanone | 10 U |
| 127-18-4 | Tetrachloroethene | 5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 U |
| 108-88-3 | Toluene | 5 U |
| 108-90-7 | Chlorobenzene | 5 U |
| 100-41-4 | Ethylbenzene | 3 J |
| 100-42-5 | Styrene | 5 U |
| 1330-20-7 | Xylene (total) | 5 U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB212W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120920

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279007

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 190 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 27 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB214W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120921

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279008

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L 0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 210 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB217W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121022

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VF03279013

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | 0 | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 270 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB220W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121082

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 3VP03299003

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 74-87-3 | Chloromethane | 10 U |
| 74-83-9 | Bromomethane | 10 U |
| 75-01-4 | Vinyl Chloride | 10 U |
| 75-00-3 | Chloroethane | 10 U |
| 75-09-2 | Methylene Chloride | 5 U |
| 67-64-1 | Acetone | 62 B |
| 75-15-0 | Carbon Disulfide | 5 U |
| 75-35-4 | 1,1-Dichloroethene | 5 U |
| 75-34-3 | 1,1-Dichloroethane | 5 U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 U |
| 67-66-3 | Chloroform | 5 U |
| 107-06-2 | 1,2-Dichloroethane | 5 U |
| 78-93-3 | 2-Butanone | 5 U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 U |
| 56-23-5 | Carbon Tetrachloride | 5 U |
| 108-05-4 | Vinyl Acetate | 10 U |
| 75-27-4 | Bromodichloromethane | 5 U |
| 78-87-5 | 1,2-Dichloropropane | 5 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 U |
| 79-01-6 | Trichloroethene | 5 U |
| 124-48-1 | Dibromochloromethane | 5 U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 U |
| 71-43-2 | Benzene | 13 |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 U |
| 75-25-2 | Bromoform | 5 U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 U |
| 591-78-6 | 2-Hexanone | 10 U |
| 127-18-4 | Tetrachloroethene | 5 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 U |
| 108-88-3 | Toluene | 5 U |
| 108-90-7 | Chlorobenzene | 5 U |
| 100-41-4 | Ethylbenzene | 5 U |
| 100-42-5 | Styrene | 5 U |
| 1330-20-7 | Xylene (total) | 5 U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSUMPW

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120309

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03209005

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L 0

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 880 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

20917ZHEBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: 20917ZHEBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 170 | |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

21082ZHEBLK

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: 21082ZHEBLK

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: 3VP03299002

Level: (low/med) LOW  Date Received: _____

% Moisture: not dec. _____  Date Analyzed: 03/29/90

Column: (pack/cap) PACKED  Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L  Q

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | BJ |
| 67-64-1 | Acetone | 130 | B |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 7 | J |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 3 | J |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB201W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120302

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04019016

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | | Q |
|---|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U | |
| 83-32-9 | Acenaphthene | 10 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U | |
| 100-02-7 | 4-Nitrophenol | 50 | U | |
| 132-64-9 | Dibenzofuran | 10 | U | |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U | |
| 84-66-2 | Diethylphthalate | 10 | U | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U | |
| 86-73-7 | Fluorene | 10 | U | |
| 100-01-6 | 4-Nitroaniline | 50 | U | |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U | |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U | |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U | |
| 118-74-1 | Hexachlorobenzene | 10 | U | |
| 87-86-5 | Pentachlorophenol | 50 | U | |
| 85-01-8 | Phenanthrene | 3 | J | J |
| 120-12-7 | Anthracene | 10 | U | |
| 84-74-2 | Di-n-Butylphthalate | 1 | J | J |
| 206-44-0 | Fluoranthene | 10 | U | |
| 129-00-0 | Pyrene | 10 | U | |
| 85-68-7 | Butylbenzylphthalate | 10 | U | |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U | |
| 56-55-3 | Benzo(a)Anthracene | 10 | U | |
| 218-01-9 | Chrysene | 10 | U | |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U | |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U | |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U | |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U | |
| 50-32-8 | Benzo(a)Pyrene | 10 | U | |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U | |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U | |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U | |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB202W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120303

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04019017

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 7 | J J |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB203W15

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120304

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04019018

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 U |
| 83-32-9 | Acenaphthene | 10 U |
| 51-28-5 | 2,4-Dinitrophenol | 50 U |
| 100-02-7 | 4-Nitrophenol | 50 U |
| 132-64-9 | Dibenzofuran | 10 U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 U |
| 84-66-2 | Diethylphthalate | 10 U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 U |
| 86-73-7 | Fluorene | 50 U |
| 100-01-6 | 4-Nitroaniline | 50 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 10 U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 U |
| 118-74-1 | Hexachlorobenzene | 50 U |
| 87-86-5 | Pentachlorophenol | 10 U |
| 85-01-8 | Phenanthrene | 10 U |
| 120-12-7 | Anthracene | 1 J |
| 84-74-2 | Di-n-Butylphthalate | 10 U |
| 206-44-0 | Fluoranthene | 10 U |
| 129-00-0 | Pyrene | 10 U |
| 85-68-7 | Butylbenzylphthalate | 20 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 10 U |
| 56-55-3 | Benzo(a)Anthracene | 10 U |
| 218-01-9 | Chrysene | 10 U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 U |
| 50-32-8 | Benzo(a)Pyrene | 10 U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB203W20

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120305

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBP04019019

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 3 | J |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB204W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04029001

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: 8.5 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | UJ |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 3 | J |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB205W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120307

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04029002

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: 10.6 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | UJ |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 3 | J |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB206W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120308

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBP04029004

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: 11.1 Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | UJ |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 2 | J |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 6 | J |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB07W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121269

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04239007

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/19/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/24/90

GPC Cleanup: (Y/N) N pH: 9.7 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q | |
|---|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U | |
| 83-32-9 | Acenaphthene | 10 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U | |
| 100-02-7 | 4-Nitrophenol | 5 | J | J |
| 132-64-9 | Dibenzofuran | 10 | U | |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U | |
| 84-66-2 | Diethylphthalate | 10 | U | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U | |
| 86-73-7 | Fluorene | 10 | U | |
| 100-01-6 | 4-Nitroaniline | 50 | U | |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U | |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U | |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U | |
| 118-74-1 | Hexachlorobenzene | 10 | U | |
| 87-86-5 | Pentachlorophenol | 50 | U | |
| 85-01-8 | Phenanthrene | 10 | U | |
| 120-12-7 | Anthracene | 10 | U | |
| 84-74-2 | Di-n-Butylphthalate | 0.5 | J | J |
| 206-44-0 | Fluoranthene | 10 | U | |
| 129-00-0 | Pyrene | 10 | U | |
| 85-68-7 | Butylbenzylphthalate | 3 | J | J |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U | |
| 56-55-3 | Benzo(a)Anthracene | 10 | U | |
| 218-01-9 | Chrysene | 10 | U | |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U | |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U | |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U | |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U | |
| 50-32-8 | Benzo(a)Pyrene | 10 | U | |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U | |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U | |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U | |

(1) - Cannot be separated from Diphenylamine

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB08W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121270

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129006

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50 | U |
| 83-32-9 | Acenaphthene | 10 | U |
| 51-28-5 | 2,4-Dinitrophenol | 50 | U |
| 100-02-7 | 4-Nitrophenol | 50 | U |
| 132-64-9 | Dibenzofuran | 10 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10 | U |
| 84-66-2 | Diethylphthalate | 10 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10 | U |
| 86-73-7 | Fluorene | 10 | U |
| 100-01-6 | 4-Nitroaniline | 50 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 50 | U |
| 85-01-8 | Phenanthrene | 10 | U |
| 120-12-7 | Anthracene | 10 | U |
| 84-74-2 | Di-n-Butylphthalate | 10 | U |
| 206-44-0 | Fluoranthene | 10 | U |
| 129-00-0 | Pyrene | 10 | U |
| 85-68-7 | Butylbenzylphthalate | 10 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20 | U |
| 56-55-3 | Benzo(a)Anthracene | 10 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 10 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 10 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 10 | U |
| 50-32-8 | Benzo(a)Pyrene | 10 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 10 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSTSB203W15

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120304

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03199005

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/20/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 13.75 | 7.6 | J |
| 2. | | UNKNOWN | 16.90 | 39 | J |
| 3. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 18.60 | 9.7 | J |
| 4. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 21.15 | 13 | J |
| 5. | 105-54-4 | BUTANOIC ACID, 1-METHYLETHYL | 22.60 | 22 | J |
| 6. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 25.26 | 44 | J |
| 7. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 26.71 | 6.1 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB08W

ab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H121270

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: 6VP03279014

Level: (low/med) LOW  Date Received: 03/24/90

% Moisture: not dec. _____  Date Analyzed: 03/27/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 4  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 108-21-4 | ACETIC ACID, 1-METHYLETHYL E | 15.32 | 34 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 19.59 | 18 | J |
| 3. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 21.07 | 18 | J |
| 4. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 23.74 | 60 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB202W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120303

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03219001

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. _____ Date Analyzed: 03/21/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 16.90 | 23 | J |
| 2. | 109-60-4 | ACETIC ACID, PROPYL ESTER | ~~18.60~~ | ~~6.9~~ | ~~J~~ |
| 3. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | ~~21.15~~ | ~~6.9~~ | ~~J~~ |
| 4. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 22.60 | 13 | J |
| 5. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | ~~25.31~~ | ~~24~~ | ~~J~~ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB205W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.: _____  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120307

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: 2VP03209002

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. _____  Date Analyzed: 03/20/90

Column (pack/cap) PACKED  Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 16.90 | 22 | J |
| 2. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 18.60 | 6.2 | J |
| 3. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 21.15 | 6.4 | J |
| 4. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 22.60 | 12 | J |
| 5. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 25.26 | 25 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB211W

ab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120917

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279004

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 637-78-5 | ~~PROPANOIC ACID, 1-METHYLETHY~~ | ~~13.55~~ | ~~16~~ | ~~J~~ |
| 2. | 638-11-9 | ~~BUTANOIC ACID, 1-METHYLETHYL~~ | ~~23.72~~ | ~~52~~ | ~~J~~ |
| 3. | 108-21-4 | ~~ACETIC ACID, 1-METHYLETHYL E~~ | ~~15.29~~ | ~~32~~ | ~~J~~ |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB213W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120922

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VF03279010

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 108-21-4 | ~~ACETIC ACID, 1-METHYLETHYL E~~ | ~~15.29~~ | ~~34~~ | ~~J~~ |
| 2. | 105-54-4 | ~~BUTANOIC ACID, ETHYL ESTER~~ | ~~21.02~~ | ~~16~~ | ~~J~~ |
| 3. | 638-11-9 | ~~BUTANOIC ACID, 1-METHYLETHYL~~ | ~~23.72~~ | ~~56~~ | ~~J~~ |
| 4. | 644-49-5 | PROPANOIC ACID, 2-METHYL-, P | 25.17 | 7.4 | J |
| 5. | 109-60-4 | ~~ACETIC ACID, PROPYL ESTER~~ | ~~16.92~~ | ~~7.4~~ | ~~J~~ |
| 6. | 27-78-5 | PROPANOIC ACID, 1-METHYLETHY | 19.57 | 17 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB218W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121083

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VP03299008

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 17.15 | 19 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 21.40 | 6.7 | J |
| 3. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 22.85 | 9.5 | J |
| 4. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 25.51 | 21 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB221W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121271

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279015

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. _____ Date Analyzed: 03/28/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 108-21-4 | ~~ACETIC ACID, 1-METHYLETHYL E~~ | ~~15.29~~ | ~~35~~ | ~~J~~ |
| 2. | 637-78-5 | ~~PROPANOIC ACID, 1-METHYLETHY~~ | ~~19.54~~ | ~~17~~ | ~~J~~ |
| 3. | 595-37-9 | BUTANOIC ACID, 2,2-DIMETHYL- | 21.02 | 17 | J |
| 4. | 105-66-8 | ~~BUTANOIC ACID, PROPYL ESTER~~ | ~~25.17~~ | ~~8.4~~ | ~~J~~ |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB07W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121269

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04239007

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/19/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/24/90

GPC Cleanup: (Y/N) N pH: 9.7 Dilution Factor: 1.00

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| ✓ | 1. 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.70 | 4.6 | ~~J~~ |
| | 2. 2807-30-9 | ETHANOL, 2-PROPOXY- | 6.85 | 7.3 | J |
| | 3. 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.67 | 11 | ~~J~~ |
| | 4. 111-76-2 | ETHANOL, 2-BUTOXY- | 9.12 | 4.8 | J |
| | 5. 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.14 | 7.4 | J |
| | 6. | UNKNOWN | 17.27 | 5.7 | J |
| | 7. 629-74-3 | 1-HEXADECYNE | 25.57 | 100 | ~~BJ~~ |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB201W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120302

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: SBP04019016

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec. dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.00

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| v | 1. 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.52 | 8.1 | J |
| | 2. | UNKNOWN | 5.42 | 7.3 | J |
| | 3. 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.53 | 14 | J |
| | 4. 123-86-4 | ACETIC ACID, BUTYL ESTER | 6.87 | 4.9 | J |
| | 5. 541-05-9 | CYCLOTRISILOXANE, HEXAMETHYL | 7.00 | 4.8 | J |
| | 6. 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.52 | 30 | J |
| | 7. 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 8.79 | 5.5 | J |
| | 8. 111-76-2 | ETHANOL, 2-BUTOXY- | 8.97 | 25 | J |
| | 9. 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.00 | 11 | J |
| | 10. | UNKNOWN | 28.59 | 4.2 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB203W15

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04019018

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.43 | 10 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 5.37 | 6.8 | J |
| 3. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.52 | 12 | J |
| 4. | 123-86-4 | ACETIC ACID, BUTYL ESTER | 6.85 | 4.3 | J |
| 5. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.50 | 26 | J |
| 6. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 8.77 | 4.7 | J |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 8.8 | J |
| 8. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 12.95 | 6.0 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB204W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120306

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04029001

Level: (low/med) LOW  Date Received: 03/12/90

% Moisture: not dec.  dec.  Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N  pH: 8.5  Dilution Factor: 1.00

Number TICs found: 12  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.50 | ~~6.9~~ | ~~J~~ |
| 2. | | UNKNOWN | 4.68 | 6.8 | J |
| 3. | 637-78-5 | ~~PROPANOIC ACID, 1-METHYLETHY~~ | ~~5.38~~ | ~~6.8~~ | ~~J~~ |
| 4. | 595-46-0 | PROPANEDIOIC ACID, DIMETHYL- | 5.62 | 4.4 | J |
| 5. | 107-92-6 | BUTANOIC ACID | 6.28 | 4.7 | J |
| 6. | | UNKNOWN | 6.50 | 11 | J |
| 7. | 123-86-4 | ACETIC ACID, BUTYL ESTER | 6.85 | ~~4.4~~ | ~~J~~ |
| 8. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.50 | 24 | J |
| 9. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | ~~8.77~~ | ~~4.4~~ | ~~J~~ |
| 10. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.95 | 8.9 | J |
| 11. | | UNKNOWN | 10.44 | 23 | J |
| 12. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 12.95 | 7.8 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB206W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120308

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SBP04029004

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: 11.1 Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.33 | 12 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 5.33 | 7.5 | J |
| 3. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.50 | 13 | J |
| 4. | 123-86-4 | ACETIC ACID, BUTYL ESTER | 6.83 | 3.9 | J |
| 5. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.50 | 27 | J |
| 6. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 8.79 | 4.5 | J |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 8.97 | 6.1 | J |
| 8. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 12.99 | 7.4 | J |

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H121021SBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121964

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129010

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H121269SBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H122096

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04239006

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/19/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H121269SBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H122096

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04239006

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/19/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/24/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 629-74-3 | 1-HEXADECYNE | 25.57 | 86 | J |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB211W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120917

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04119015

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB212W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04119018

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB213W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120922

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129003

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 10 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 14 | J |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 0.9 | J |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB214W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120921

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BF04139011

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/13/90

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB216W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121021

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129011

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB217W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121022

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129012

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB218W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121083

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129008

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. dec. Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 8.5 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB220W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121082

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129005

Level: (low/med) LOW Date Received: 03/23/90

% Moisture: not dec. dec. Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 10 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 11 | J |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 10 | U |
| 91-58-7 | 2-Chloronaphthalene | 50 | U |
| 88-74-4 | 2-Nitroaniline | 10 | U |
| 131-11-3 | Dimethyl Phthalate | 50 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSB221W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121271

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129007

Level: (low/med) LOW Date Received: 03/24/90

% Moisture: not dec. dec. Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: 8.9 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 50 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TSUSUMPW

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04029005

Level: (low/med) LOW Date Received: 03/12/90

% Moisture: not dec. dec. Date Extracted: 03/16/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/02/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 10 | U |
| 67-72-1 | Hexachloroethane | 10 | U |
| 98-95-3 | Nitrobenzene | 10 | U |
| 78-59-1 | Isophorone | 10 | U |
| 88-75-5 | 2-Nitrophenol | 10 | U |
| 105-67-9 | 2,4-Dimethylphenol | 10 | U |
| 65-85-0 | Benzoic Acid | 10 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 22 | J |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 91-20-3 | Naphthalene | 10 | U |
| 106-47-8 | 4-Chloroaniline | 1 | J |
| 87-68-3 | Hexachlorobutadiene | 10 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 10 | U |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 10 | U |
| 91-58-7 | 2-Chloronaphthalene | 50 | U |
| 88-74-4 | 2-Nitroaniline | 10 | U |
| 131-11-3 | Dimethyl Phthalate | 50 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB211W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H120917

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04119015

Level: (low/med) LOW Date Received: 03/21/90

% Moisture: not dec. dec. Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/11/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.70 | 9.7 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 5.57 | 8.9 | J |
| 3. | 107-92-6 | BUTANOIC ACID | 6.45 | 4.0 | J |
| 4. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.68 | 13 | J |
| 5. | 123-86-4 | ACETIC ACID, BUTYL ESTER | 7.02 | 4.8 | J |
| 6. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.67 | 29 | J |
| 7. | 108-93-0 | CYCLOHEXANOL | 8.67 | 4.7 | J |
| 8. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 8.92 | 5.3 | J |
| 9. | | UNKNOWN | 25.59 | 34 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB213W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H120922

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04129003

Level: (low/med) LOW  Date Received: 03/21/90

% Moisture: not dec. dec.  Date Extracted: 03/28/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH:  Dilution Factor: 1.00

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.53 | 6.8 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 5.43 | 5.8 | J |
| 3. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.57 | 9.7 | J |
| 4. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.55 | 20 | J |
| 5. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.02 | 52 | J |
| 6. | | UNKNOWN | 10.50 | 19 | J |
| 7. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.04 | 8.0 | J |
| 8. | 112-05-0 | NONANOIC ACID | 15.45 | 5.4 | J |
| 9. | 57-10-3 | HEXADECANOIC ACID | 24.34 | 9.2 | J |
| 10. | | UNKNOWN | 25.51 | 19 | J |
| 11. | 4337-65-9 | HEXANEDIOIC ACID, MONO(2-ETH | 28.66 | 7.6 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TSUSB216W

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: H121021

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 5BP04129011

Level: (low/med) LOW Date Received: 03/22/90

% Moisture: not dec. dec. Date Extracted: 03/30/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ACETIC ACID, PROPYL ESTER | 4.48 | 6.9 | J |
| 2. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 5.42 | 8.5 | J |
| 3. | 107-92-6 | BUTANOIC ACID | 6.35 | 4.6 | J |
| 4. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 6.55 | 13 | J |
| 5. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 7.55 | 27 | J |
| 6. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 8.82 | 5.3 | J |
| 7. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.02 | 14 | J |
| 8. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.02 | 6.5 | J |

1F

EPA SAMPLE NO.

TSUSB218W

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H121083

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04129008

Level: (low/med) LOW  Date Received: 03/23/90

% Moisture: not dec. dec.  Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N  pH: 8.5  Dilution Factor: 1.00

Number TICs found: 10  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ~~ACETIC ACID, PROPYL ESTER~~ | ~~4.48~~ | ~~7.1~~ | ~~J~~ |
| 2. | 637-78-5 | ~~PROPANOIC ACID, 1-METHYLETHY~~ | ~~5.42~~ | ~~7.3~~ | ~~J~~ |
| 3. | 141-78-6 | ACETIC ACID, ETHYL ESTER | 6.25 | 5.6 | J |
| 4. | 107-92-6 | BUTANOIC ACID | 6.33 | 5.0 | J |
| 5. | | UNKNOWN | 6.57 | 11 | J |
| 6. | 123-86-4 | ~~ACETIC ACID, BUTYL ESTER~~ | ~~6.90~~ | ~~4.4~~ | ~~J~~ |
| 7. | 638-11-9 | ~~BUTANOIC ACID, 1-METHYLETHYL~~ | ~~7.57~~ | ~~25~~ | ~~J~~ |
| 8. | 105-66-8 | ~~BUTANOIC ACID, PROPYL ESTER~~ | ~~8.84~~ | ~~4.9~~ | ~~J~~ |
| 9. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.04 | 12 | J |
| 10. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.02 | 5.5 | J |

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: TSUSB221W

Lab Name: NUS HOUSTON  Contract: 4M410

Lab Code: NUS-HAL  Case No.: TAFB1  SAS No.:  SDG No.: TAFBT1

Matrix: (soil/water) WATER  Lab Sample ID: H121271

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 5BP04129007

Level: (low/med) LOW  Date Received: 03/24/90

% Moisture: not dec. ' dec.  Date Extracted: 04/03/90

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 04/12/90

GPC Cleanup: (Y/N) N  pH: 8.9  Dilution Factor: 1.00

Number TICs found: 15  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 109-60-4 | ~~ACETIC ACID, PROPYL ESTER~~ | ~~4.67~~ | ~~9.7~~ | ~~J~~ |
| 2. | 637-78-5 | ~~PROPANOIC ACID, 1-METHYLETHY~~ | ~~5.50~~ | ~~10~~ | ~~J~~ |
| 3. | 595-46-0 | PROPANEDIOIC ACID, DIMETHYL- | 5.77 | 4.6 | J |
| 4. | 107-92-6 | BUTANOIC ACID | 6.42 | 5.5 | J |
| 5. | 105-54-4 | ~~BUTANOIC ACID, ETHYL ESTER~~ | ~~6.62~~ | ~~14~~ | ~~J~~ |
| 6. | 123-86-4 | ~~ACETIC ACID, BUTYL ESTER~~ | ~~6.95~~ | ~~5.0~~ | ~~J~~ |
| 7. | 638-11-9 | ~~BUTANOIC ACID, 1-METHYLETHYL~~ | ~~7.60~~ | ~~30~~ | ~~J~~ |
| 8. | 105-66-8 | ~~BUTANOIC ACID, PROPYL ESTER~~ | ~~8.87~~ | ~~5.9~~ | ~~J~~ |
| 9. | 111-76-2 | ETHANOL, 2-BUTOXY- | 9.07 | 25 | J |
| 10. | | UNKNOWN | 10.54 | 30 | J |
| 11. | 149-57-5 | HEXANOIC ACID, 2-ETHYL- | 13.14 | 21 | J |
| 12. | | UNKNOWN | 13.54 | 4.7 | J |
| 13. | 403-19-0 | 2-FLUORO-4-NITROPHENOL | 13.85 | 6.6 | J |
| 14. | 272-16-2 | 1,2-BENZISOTHIAZOLE | 15.20 | 5.9 | J |
| 15. | 123-79-5 | HEXANEDIOIC ACID, DIOCTYL ES | 28.69 | 9.3 | J |

Supporting Documentation

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Instrument ID: 4500A Calibration Date(s): 03/27/90 03/28/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 2VT03279015 RRF50 = 2VT03279004
RRF100= 2VT03279005 RRF150= 2VT03289001 RRF200= 2VT03279010

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 1.023 | 0.885 | 0.962 | 0.841 | 1.244 | 0.991 | 15.9# |
| Bromomethane | 1.122 | 0.953 | 1.027 | 0.990 | 1.277 | 1.074 | 12.1 |
| Vinyl Chloride * | 1.003 | 1.013 | 1.118 | 1.053 | 1.392 | 1.116 | 14.4* |
| Chloroethane | 0.707 | 0.693 | 0.737 | 0.691 | 0.909 | 0.747 | 12.3 |
| Methylene Chloride | 1.678 | 1.258 | 1.219 | 1.185 | 1.424 | 1.353 | 15.1 |
| Acetone | 1.638 | 0.895 | 0.992 | 0.813 | 1.015 | 1.071 | 30.6 |
| Carbon Disulfide | 2.834 | 1.986 | 2.086 | 1.945 | 3.875 | 2.545 | 32.5 |
| 1,1-Dichloroethene * | 1.334 | 1.115 | 1.126 | 1.082 | 1.426 | 1.217 | 12.6* |
| 1,1-Dichloroethane # | 3.574 | 3.188 | 3.227 | 3.108 | 3.671 | 3.354 | 7.5# |
| 1,2-Dichloroethene (total) | 1.571 | 1.276 | 1.224 | 1.201 | 1.662 | 1.387 | 15.4 |
| Chloroform * | 4.363 | 3.685 | 3.622 | 3.543 | 4.033 | 3.849 | 8.9* |
| 1,2-Dichloroethane | 2.878 | 2.665 | 2.772 | 2.604 | 3.023 | 2.788 | 6.0 |
| 2-Butanone | 0.101 | 0.096 | 0.106 | 0.086 | 0.114 | 0.101 | 10.4 |
| 1,1,1-Trichloroethane | 0.821 | 0.672 | 0.675 | 0.680 | 0.751 | 0.720 | 9.1 |
| Carbon Tetrachloride | 0.634 | 0.565 | 0.585 | 0.589 | 0.667 | 0.608 | 6.8 |
| Vinyl Acetate | 1.269 | 1.179 | 1.200 | 1.148 | 1.196 | 1.198 | 3.7 |
| Bromodichloromethane | 0.995 | 0.824 | 0.851 | 0.875 | 0.875 | 0.884 | 7.4 |
| 1,2-Dichloropropane * | 0.532 | 0.465 | 0.468 | 0.470 | 0.495 | 0.486 | 5.8* |
| cis-1,3-Dichloropropene | 1.024 | 0.899 | 0.917 | 0.933 | 0.977 | 0.950 | 5.3 |
| Trichloroethene | 0.518 | 0.425 | 0.419 | 0.438 | 0.502 | 0.460 | 10.0 |
| Dibromochloromethane | 0.725 | 0.649 | 0.667 | 0.687 | 0.707 | 0.687 | 4.4 |
| 1,1,2-Trichloroethane | 0.486 | 0.423 | 0.419 | 0.425 | 0.441 | 0.439 | 6.3 |
| Benzene | 1.196 | 0.949 | 0.909 | 0.894 | 1.051 | 1.000 | 12.6 |
| trans-1,3-Dichloropropene | 0.542 | 0.489 | 0.484 | 0.487 | 0.514 | 0.503 | 4.9 |
| Bromoform # | 0.541 | 0.561 | 0.600 | 0.575 | 0.605 | 0.576 | 4.6# |
| 4-Methyl-2-Pentanone | 1.432 | 1.277 | 1.406 | 1.204 | 1.229 | 1.310 | 7.9 |
| 2-Hexanone | 1.201 | 1.024 | 1.230 | 0.993 | 1.047 | 1.099 | 9.9 |
| Tetrachloroethene | 0.493 | 0.412 | 0.454 | 0.471 | 0.498 | 0.466 | 7.5 |
| 1,1,2,2-Tetrachloroethane # | 1.157 | 1.039 | 1.178 | 1.146 | 1.076 | 1.119 | 5.3# |
| Toluene * | 0.877 | 0.715 | 0.755 | 0.779 | 0.830 | 0.791 | 8.0* |
| Chlorobenzene # | 1.135 | 0.960 | 1.020 | 1.058 | 1.087 | 1.052 | 6.3# |
| Ethylbenzene * | 0.529 | 0.454 | 0.491 | 0.503 | 0.521 | 0.500 | 5.9* |
| Styrene | 1.137 | 0.947 | 1.030 | 1.044 | 1.026 | 1.037 | 6.5 |
| Xylene (total) | 0.594 | 0.277 | 0.305 | 0.277 | 0.286 | 0.348 | 39.7 |
| Toluene-d8 | 1.028 | 1.120 | 1.023 | 0.873 | 0.985 | 1.006 | 8.9 |
| BFB | 0.880 | 0.831 | 0.868 | 0.812 | 0.820 | 0.842 | 3.6 |
| 1,2-Dichloroethane-d4 | 2.222 | 2.528 | 2.352 | 1.906 | 2.256 | 2.253 | 10.1 |

Associated Samples:
TSUSB07W
TSUSB21W

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Instrument ID: INCOSF Calibration Date(s): 03/26/90 03/26/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 6VT03269005 RRF50 = 6VT03269004
RRF100= 6VT03269006 RRF150= 6VT03269007 RRF200= 6VT03269008

| COMPOUND | RRF20 | RRF50 | RRF100 | RRF150 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Chloromethane # | 0.982 | 1.015 | 0.908 | 0.873 | 0.817 | 0.919 | 8.7# |
| Bromomethane | 1.462 | 1.466 | 1.269 | 0.978 | 0.830 | 1.201 | 23.9 |
| Vinyl Chloride * | 1.244 | 1.295 | 1.156 | 1.138 | 1.030 | 1.173 | 8.7* |
| Chloroethane | 0.879 | 0.928 | 0.849 | 0.808 | 0.708 | 0.834 | 10.0 |
| Methylene Chloride | 1.714 | 1.570 | 1.489 | 1.395 | 1.226 | 1.479 | 12.4 |
| Acetone | 0.397 | 0.298 | 0.265 | 0.213 | 0.189 | 0.272 | 30.1 |
| Carbon Disulfide | 2.017 | 2.269 | 2.081 | 2.038 | 1.840 | 2.049 | 7.5 |
| 1,1-Dichloroethene * | 1.411 | 1.394 | 1.286 | 1.239 | 1.117 | 1.289 | 9.3* |
| 1,1-Dichloroethane # | 2.942 | 2.968 | 2.764 | 2.654 | 2.434 | 2.752 | 8.0# |
| 1,2-Dichloroethene (total) | 1.448 | 1.454 | 1.352 | 1.301 | 1.180 | 1.347 | 8.4 |
| Chloroform * | 3.430 | 3.359 | 3.075 | 2.938 | 2.643 | 3.089 | 10.4* |
| 1,2-Dichloroethane | 1.886 | 1.857 | 1.677 | 1.617 | 1.480 | 1.703 | 10.0 |
| 2-Butanone | 0.038 | 0.034 | 0.033 | 0.034 | 0.032 | 0.034 | 6.7 |
| 1,1,1-Trichloroethane | 0.646 | 0.660 | 0.631 | 0.625 | 0.567 | 0.626 | 5.7 |
| Carbon Tetrachloride | 0.536 | 0.580 | 0.565 | 0.561 | 0.518 | 0.552 | 4.5 |
| Vinyl Acetate | 0.678 | 0.623 | 0.596 | 0.553 | 0.504 | 0.591 | 11.2 |
| Bromodichloromethane | 0.718 | 0.750 | 0.751 | 0.749 | 0.679 | 0.729 | 4.3 |
| 1,2-Dichloropropane * | 0.487 | 0.480 | 0.474 | 0.461 | 0.417 | 0.464 | 6.0* |
| cis-1,3-Dichloropropene | 0.340 | 0.368 | 0.364 | 0.381 | 0.347 | 0.360 | 4.6 |
| Trichloroethene | 0.535 | 0.538 | 0.502 | 0.501 | 0.453 | 0.506 | 6.8 |
| Dibromochloromethane | 0.619 | 0.679 | 0.699 | 0.698 | 0.640 | 0.667 | 5.4 |
| 1,1,2-Trichloroethane | 0.476 | 0.449 | 0.428 | 0.413 | 0.371 | 0.427 | 9.2 |
| Benzene | 1.027 | 1.030 | 0.988 | 0.953 | 0.867 | 0.973 | 6.9 |
| trans-1,3-Dichloropropene | 0.727 | 0.754 | 0.764 | 0.760 | 0.695 | 0.740 | 3.9 |
| Bromoform # | 0.453 | 0.509 | 0.540 | 0.555 | 0.513 | 0.514 | 7.6# |
| 4-Methyl-2-Pentanone | 0.426 | 0.360 | 0.332 | 0.329 | 0.293 | 0.348 | 14.3 |
| 2-Hexanone | 0.311 | 0.260 | 0.232 | 0.230 | 0.210 | 0.249 | 15.7 |
| Tetrachloroethene | 0.552 | 0.552 | 0.491 | 0.475 | 0.415 | 0.497 | 11.6 |
| 1,1,2,2-Tetrachloroethane # | 0.788 | 0.738 | 0.682 | 0.666 | 0.606 | 0.696 | 10.0# |
| Toluene * | 0.797 | 0.801 | 0.750 | 0.728 | 0.647 | 0.745 | 8.4* |
| Chlorobenzene # | 1.158 | 1.154 | 1.087 | 1.055 | 0.938 | 1.078 | 8.3# |
| Ethylbenzene * | 0.568 | 0.579 | 0.538 | 0.535 | 0.477 | 0.539 | 7.4* |
| Styrene | 1.117 | 1.127 | 1.068 | 1.050 | 0.934 | 1.059 | 7.3 |
| Xylene (total) | 1.327 | 1.409 | 1.331 | 1.308 | 1.183 | 1.312 | 6.2 |
| Toluene-d8 | 1.260 | 1.150 | 0.996 | 1.014 | 0.955 | 1.075 | 11.8 |
| BFB | 1.117 | 1.012 | 0.893 | 0.917 | 0.866 | 0.961 | 10.7 |
| 1,2-Dichloroethane-d4 | 1.795 | 1.675 | 1.454 | 1.459 | 1.398 | 1.556 | 11.0 |

Associated Samples:

20917ZHEBLK
TSUSB211W
TSUSB212W
TSUSB214W
TSUSB213W
TSUSB216W
TSUSB217W
TSUSB218W
TSUSB221W
21021ZHEBLK

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Instrument ID: 4500A Calibration date: 03/20/90 Time: 0826

Lab File ID: 2VT03209001 Init. Calib. Date(s): 03/19/90 03/19/90

Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

associated Samples:
TSUSB204W
TSUSB205W
TSUSB206W
TSUSUMPW

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.639 | 0.575 | 10.0 | # |
| Bromomethane | 0.817 | 0.826 | -1.1 | |
| Vinyl Chloride | 0.622 | 0.632 | -1.6 | * |
| Chloroethane | 0.400 | 0.442 | -10.5 | |
| Methylene Chloride | 0.907 | 1.093 | -20.5 | |
| Acetone | 0.451 | 0.313 | 30.6 | |
| Carbon Disulfide | 2.014 | 1.864 | 7.4 | |
| 1,1-Dichloroethene | 1.300 | 1.264 | 2.8 | * |
| 1,1-Dichloroethane | 2.318 | 2.336 | -0.8 | # |
| 1,2-Dichloroethene (total) | 1.358 | 1.372 | -1.0 | |
| Chloroform | 2.603 | 2.718 | -4.4 | * |
| 1,2-Dichloroethane | 1.308 | 1.241 | 5.1 | |
| 2-Butanone | 0.081 | 0.028 | 65.4 | ✓ |
| 1,1,1-Trichloroethane | 0.508 | 0.547 | -7.7 | |
| Carbon Tetrachloride | 0.477 | 0.476 | 0.2 | |
| Vinyl Acetate | 0.373 | 0.274 | 26.5 | |
| Bromodichloromethane | 0.708 | 0.712 | -0.6 | |
| 1,2-Dichloropropane | 0.399 | 0.403 | -1.0 | * |
| cis-1,3-Dichloropropene | 0.591 | 0.737 | -24.7 | |
| Trichloroethene | 0.459 | 0.452 | 1.5 | |
| Dibromochloromethane | 0.726 | 0.699 | 3.7 | |
| 1,1,2-Trichloroethane | 0.404 | 0.380 | 5.9 | |
| Benzene | 0.895 | 0.884 | 1.2 | |
| trans-1,3-Dichloropropene | 0.355 | 0.340 | 4.2 | |
| Bromoform | 0.673 | 0.557 | 17.2 | # |
| 4-Methyl-2-Pentanone | 0.634 | 0.303 | 52.2 | ✓ |
| 2-Hexanone | 0.518 | 0.272 | 47.5 | |
| Tetrachloroethene | 0.486 | 0.459 | 5.6 | |
| 1,1,2,2-Tetrachloroethane | 1.036 | 0.731 | 29.4 | # |
| Toluene | 0.716 | 0.690 | 3.6 | * |
| Chlorobenzene | 1.010 | 0.991 | 1.9 | # |
| Ethylbenzene | 0.461 | 0.446 | 3.3 | * |
| Styrene | 0.915 | 0.902 | 1.4 | |
| Xylene (total) | 0.486 | 0.221 | 54.5 | ✓ |
| Toluene-d8 | 1.380 | 1.008 | 27.0 | |
| BFB | 1.072 | 0.815 | 24.0 | |
| 1,2-Dichloroethane-d4 | 1.578 | 1.149 | 27.2 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Instrument ID: 4500A Calibration date: 03/29/90 Time: 0801

Lab File ID: 2VT03299001 Init. Calib. Date(s): 03/27/90 03/28/90

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

Associated Samples:
TSUS 807 W
TSUS 8218 W

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.991 | 1.126 | -13.6 | # |
| Bromomethane | 1.074 | 1.190 | -10.8 | |
| Vinyl Chloride | 1.116 | 1.234 | -10.6 | * |
| Chloroethane | 0.747 | 0.804 | -7.6 | |
| Methylene Chloride | 1.353 | 1.284 | 5.1 | |
| Acetone | 1.071 | 1.323 | -23.5 | |
| Carbon Disulfide | 2.545 | 2.653 | -4.2 | |
| 1,1-Dichloroethene | 1.217 | 1.173 | 3.6 | * |
| 1,1-Dichloroethane | 3.354 | 3.290 | 1.9 | # |
| 1,2-Dichloroethene (total) | 1.387 | 1.377 | 0.7 | |
| Chloroform | 3.849 | 3.722 | 3.3 | * |
| 1,2-Dichloroethane | 2.788 | 2.819 | -1.1 | |
| 2-Butanone | 0.101 | 0.102 | -1.0 | |
| 1,1,1-Trichloroethane | 0.720 | 0.747 | -3.8 | |
| Carbon Tetrachloride | 0.608 | 0.637 | -4.8 | |
| Vinyl Acetate | 1.198 | 1.351 | -12.8 | |
| Bromodichloromethane | 0.884 | 0.918 | -3.8 | |
| 1,2-Dichloropropane | 0.486 | 0.502 | -3.3 | * |
| cis-1,3-Dichloropropene | 0.950 | 0.998 | -5.1 | |
| Trichloroethene | 0.460 | 0.470 | -2.2 | |
| Dibromochloromethane | 0.687 | 0.697 | -1.5 | |
| 1,1,2-Trichloroethane | 0.439 | 0.438 | 0.2 | |
| Benzene | 1.000 | 1.022 | -2.2 | |
| trans-1,3-Dichloropropene | 0.503 | 0.525 | -4.4 | |
| Bromoform | 0.576 | 0.575 | 0.2 | # |
| 4-Methyl-2-Pentanone | 1.310 | 1.414 | -7.9 | |
| 2-Hexanone | 1.099 | 1.226 | -11.6 | |
| Tetrachloroethene | 0.466 | 0.486 | -4.3 | |
| 1,1,2,2-Tetrachloroethane | 1.119 | 1.139 | -1.8 | # |
| Toluene | 0.791 | 0.794 | -0.4 | * |
| Chlorobenzene | 1.052 | 1.045 | 0.7 | # |
| Ethylbenzene | 0.500 | 0.502 | -0.4 | * |
| Styrene | 1.037 | 1.050 | -1.3 | |
| Xylene (total) | 0.348 | 0.256 | 26.4 | |
| Toluene-d8 | 1.006 | 1.068 | -6.2 | |
| BFB | 0.842 | 0.900 | -6.9 | |
| 1,2-Dichloroethane-d4 | 2.253 | 2.405 | -6.7 | |

# VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Instrument ID: INCOSF Calibration date: 03/27/90 Time: 1720

Lab File ID: 6VT03279004 Init. Calib. Date(s): 03/26/90 03/26/90

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACKED

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

Associated Samples:

TSUSB213W
210212HEBLK
TSUSB216W
TSUSB217W
TSUSB08W
TSUSB221W

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Chloromethane | 0.919 | 0.958 | -4.2 | # |
| Bromomethane | 1.201 | 1.429 | -19.0 | |
| Vinyl Chloride | 1.173 | 1.203 | -2.6 | * |
| Chloroethane | 0.834 | 0.907 | -8.8 | |
| Methylene Chloride | 1.479 | 1.548 | -4.7 | |
| Acetone | 0.272 | 0.265 | 2.6 | |
| Carbon Disulfide | 2.049 | 2.085 | -1.8 | |
| 1,1-Dichloroethene | 1.289 | 1.261 | 2.2 | * |
| 1,1-Dichloroethane | 2.752 | 2.802 | -1.8 | # |
| 1,2-Dichloroethene (total) | 1.347 | 1.405 | -4.3 | |
| Chloroform | 3.089 | 3.272 | -5.9 | * |
| 1,2-Dichloroethane | 1.703 | 1.846 | -8.4 | |
| 2-Butanone | 0.034 | 0.032 | 5.9 | |
| 1,1,1-Trichloroethane | 0.626 | 0.588 | 6.1 | |
| Carbon Tetrachloride | 0.552 | 0.504 | 8.7 | |
| Vinyl Acetate | 0.591 | 0.651 | -10.2 | |
| Bromodichloromethane | 0.729 | 0.707 | 3.0 | |
| 1,2-Dichloropropane | 0.464 | 0.460 | 0.9 | * |
| cis-1,3-Dichloropropene | 0.360 | 0.359 | 0.3 | |
| Trichloroethene | 0.506 | 0.487 | 3.8 | |
| Dibromochloromethane | 0.667 | 0.655 | 1.8 | |
| 1,1,2-Trichloroethane | 0.427 | 0.434 | -1.6 | |
| Benzene | 0.973 | 0.964 | 0.9 | |
| trans-1,3-Dichloropropene | 0.740 | 0.727 | 1.8 | |
| Bromoform | 0.514 | 0.503 | 2.1 | # |
| 4-Methyl-2-Pentanone | 0.348 | 0.342 | 1.7 | |
| 2-Hexanone | 0.249 | 0.261 | -4.8 | |
| Tetrachloroethene | 0.497 | 0.493 | 0.8 | |
| 1,1,2,2-Tetrachloroethane | 0.696 | 0.711 | -2.2 | # |
| Toluene | 0.745 | 0.748 | -0.4 | * |
| Chlorobenzene | 1.078 | 1.062 | 1.5 | # |
| Ethylbenzene | 0.539 | 0.514 | 4.6 | * |
| Styrene | 1.059 | 1.029 | 2.8 | |
| Xylene (total) | 1.312 | 0.572 | 56.4 | |
| Toluene-d8 | 1.075 | 1.073 | 0.2 | |
| BFB | 0.961 | 0.972 | -1.1 | |
| 1,2-Dichloroethane-d4 | 1.556 | 1.657 | -6.5 | |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKBA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: VBLKBA

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 2VT03209003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 03/20/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 5 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKCV

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: VBLKCV

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 3VT03299002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 03/29/90

Column: (pack/cap) PACKED Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10 | U |
| 74-83-9 | Bromomethane | 10 | U |
| 75-01-4 | Vinyl Chloride | 10 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | J |
| 67-64-1 | Acetone | 4 | J |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5 | U |
| 67-66-3 | Chloroform | 3 | J |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 5 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 124-48-1 | Dibromochloromethane | 5 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 75-25-2 | Bromoform | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U |
| 591-78-6 | 2-Hexanone | 10 | U |
| 127-18-4 | Tetrachloroethene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 108-88-3 | Toluene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 1330-20-7 | Xylene (total) | 5 | U |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

20917ZHEBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: 20917ZHEBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 6VP03279003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/27/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 108-21-4 | ACETIC ACID, 1-METHYLETHYL E | 15.25 | 37 | J |
| 2. 105-54-4 | BUTANOIC ACID, ETHYL ESTER | 20.99 | 18 | J |
| 3. 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 23.70 | 61 | J |
| 4. 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 25.16 | 7.9 | J |

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

21082ZHEBLK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: _____ SDG No.: TAFBT1

Matrix: (soil/water) WATER Lab Sample ID: 21082ZHEBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 3VP03299002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 03/29/90

Column (pack/cap) PACKED Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 15.75 | 12 | J |
| 2. | | UNKNOWN | 19.05 | 49 | J |
| 3. | | UNKNOWN | 20.75 | 14 | J |
| 4. | 637-78-5 | PROPANOIC ACID, 1-METHYLETHY | 23.40 | 16 | J |
| 5. | 105-54-4 | BUTANOIC ACID, ETHYL ESTER A | 24.90 | 27 | J |
| 6. | 124-86-4 | ACETIC ACID, BUTYL ESTER | 25.21 | 6.1 | J |
| 7. | 638-11-9 | BUTANOIC ACID, 1-METHYLETHYL | 27.91 | 48 | J |
| 8. | 105-66-8 | BUTANOIC ACID, PROPYL ESTER | 30.06 | 5.7 | J |

# SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration Date(s): 03/28/90 03/29/90

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 5BT03289004 RRF50 = 5BT03289003
RRF80 = 5BT03289005 RRF120= 5BT03289006 RRF160= 5BT03289003

| COMPOUND | RRF20 | RRF50 | RRF80 | RRF120 | RRF160 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|
| Dibenzofuran | 1.520 | 1.556 | 1.463 | 1.357 | 1.095 | 1.398 | 13.3 |
| 2,4-Dinitrotoluene | 0.276 | 0.320 | 0.316 | 0.318 | 0.325 | 0.311 | 6.4 |
| Diethylphthalate | 1.023 | 1.147 | 1.135 | 1.123 | 0.983 | 1.082 | 6.9 |
| 4-Chlorophenyl-phenylether | 0.526 | 0.572 | 0.532 | 0.523 | 0.429 | 0.516 | 10.2 |
| Fluorene | 1.243 | 1.273 | 1.162 | 1.085 | 0.825 | 1.118 | 16.0 |
| 4-Nitroaniline | | 0.207 | 0.198 | 0.259 | 0.254 | 0.230 | 13.7 |
| 4,6-Dinitro-2-Methylphenol | | 0.117 | 0.110 | 0.122 | 0.131 | 0.120 | 7.4 |
| N-Nitrosodiphenylamine (1) * | 0.483 | 0.484 | 0.468 | 0.469 | 0.410 | 0.463 | 6.6* |
| 4-Bromophenyl-phenylether | 0.198 | 0.231 | 0.225 | 0.233 | 0.213 | 0.220 | 6.6 |
| Hexachlorobenzene | 0.219 | 0.240 | 0.235 | 0.242 | 0.217 | 0.231 | 5.1 |
| Pentachlorophenol * | | 0.140 | 0.132 | 0.145 | 0.142 | 0.140 | 4.0* |
| Phenanthrene | 1.082 | 1.086 | 1.027 | 0.964 | 0.741 | 0.980 | 14.5 |
| Anthracene | 1.093 | 1.090 | 1.037 | 0.962 | 0.743 | 0.985 | 14.8 |
| Di-n-Butylphthalate | 1.074 | 1.148 | 1.124 | 1.075 | 0.827 | 1.050 | 12.2 |
| Fluoranthene * | 0.984 | 0.968 | 0.849 | 0.946 | 0.770 | 0.903 | 10.1* |
| Pyrene | 1.644 | 1.909 | 2.166 | 1.708 | 1.166 | 1.719 | 21.5 |
| Butylbenzylphthalate | 0.563 | 0.678 | 0.720 | 0.736 | 0.625 | 0.664 | 10.7 |
| 3,3'-Dichlorobenzidine | 0.246 | 0.222 | 0.212 | 0.363 | 0.432 | 0.295 | 33.0 |
| Benzo(a)Anthracene | 1.143 | 1.284 | 1.280 | 1.289 | 1.069 | 1.213 | 8.3 |
| Chrysene | 1.002 | 1.149 | 1.152 | 1.187 | 0.876 | 1.073 | 12.2 |
| bis(2-Ethylhexyl)Phthalate | 0.704 | 0.858 | 0.876 | 0.935 | 0.790 | 0.833 | 10.6 |
| Di-n-Octyl Phthalate * | 1.168 | 1.439 | 1.337 | 1.491 | 1.304 | 1.348 | 9.3* |
| Benzo(b)Fluoranthene | 1.186 | 1.335 | 1.403 | 1.436 | 1.212 | 1.314 | 8.5 |
| Benzo(k)Fluoranthene | 1.145 | 1.234 | 1.325 | 1.333 | 1.096 | 1.227 | 8.6 |
| Benzo(a)Pyrene * | 1.054 | 1.221 | 1.235 | 1.338 | 1.153 | 1.200 | 8.8* |
| Indeno(1,2,3-cd)Pyrene | 1.030 | 1.113 | 1.087 | 1.185 | 1.151 | 1.113 | 5.4 |
| Dibenz(a,h)Anthracene | 0.792 | 0.939 | 0.940 | 1.008 | 0.912 | 0.918 | 8.6 |
| Benzo(g,h,i)Perylene | 0.854 | 0.950 | 1.003 | 0.952 | 0.848 | 0.921 | 7.4 |
| Nitrobenzene-d5 | 0.431 | 0.449 | 0.423 | 0.430 | 0.408 | 0.428 | 3.5 |
| 2-Fluorobiphenyl | 1.240 | 1.195 | 1.168 | 1.093 | 0.873 | 1.114 | 13.0 |
| Terphenyl-d14 | 0.945 | 1.144 | 1.301 | 1.110 | 0.844 | 1.069 | 16.7 |
| Phenol-d5 | 1.693 | 1.767 | 1.724 | 1.730 | 1.515 | 1.686 | 5.9 |
| 2-Fluorophenol | 1.293 | 1.474 | 1.418 | 1.416 | 1.305 | 1.381 | 5.7 |
| 2,4,6-Tribromophenol | 0.111 | 0.154 | 0.151 | 0.162 | 0.159 | 0.147 | 14.1 |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration date: 04/02/90 Time: 1241

Lab File ID: SBT04029001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Dibenzofuran | | 1.398 | 1.621 | -16.0 | |
| 2,4-Dinitrotoluene | | 0.311 | 0.328 | -5.5 | |
| Diethylphthalate | | 1.082 | 1.199 | -10.8 | |
| 4-Chlorophenyl-phenylether | | 0.516 | 0.621 | -20.4 | |
| Fluorene | | 1.118 | 1.251 | -11.9 | |
| 4-Nitroaniline | | 0.230 | 0.151 | 34.4 | |
| 4,6-Dinitro-2-Methylphenol | | 0.120 | 0.084 | 30.0 | |
| N-Nitrosodiphenylamine (1) | * | 0.463 | 0.570 | -23.1 | * |
| 4-Bromophenyl-phenylether | | 0.220 | 0.260 | -18.2 | |
| Hexachlorobenzene | | 0.231 | 0.251 | -8.7 | |
| Pentachlorophenol | * | 0.140 | 0.110 | 21.4 | * |
| Phenanthrene | | 0.980 | 1.060 | -8.2 | |
| Anthracene | | 0.985 | 1.047 | -6.3 | |
| Di-n-Butylphthalate | | 1.050 | 1.051 | -0.1 | |
| Fluoranthene | * | 0.903 | 0.815 | 9.7 | * |
| Pyrene | | 1.719 | 1.940 | -12.9 | |
| Butylbenzylphthalate | | 0.664 | 0.610 | 8.1 | |
| 3,3'-Dichlorobenzidine | | 0.295 | 0.235 | 20.3 | |
| Benzo(a)Anthracene | | 1.213 | 1.264 | -4.2 | |
| Chrysene | | 1.073 | 1.140 | -6.2 | |
| bis(2-Ethylhexyl)Phthalate | | 0.833 | 0.811 | 2.6 | |
| Di-n-Octyl Phthalate | * | 1.348 | 1.230 | 8.8 | * |
| Benzo(b)Fluoranthene | | 1.314 | 1.223 | 6.9 | |
| Benzo(k)Fluoranthene | | 1.227 | 1.173 | 4.4 | |
| Benzo(a)Pyrene | * | 1.200 | 1.190 | 0.8 | * |
| Indeno(1,2,3-cd)Pyrene | | 1.113 | 1.213 | -9.0 | |
| Dibenz(a,h)Anthracene | | 0.918 | 1.032 | -12.4 | |
| Benzo(g,h,i)Perylene | | 0.921 | 1.114 | -21.0 | |
| Nitrobenzene-d5 | | 0.428 | 0.446 | -4.2 | |
| 2-Fluorobiphenyl | | 1.114 | 1.231 | -10.5 | |
| Terphenyl-d14 | | 1.069 | 1.222 | -14.3 | |
| Phenol-d5 | | 1.686 | 1.873 | -11.1 | |
| 2-Fluorophenol | | 1.381 | 1.498 | -8.5 | |
| 2,4,6-Tribromophenol | | 0.147 | 0.155 | -5.4 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration date: 04/11/90 Time: 1112

Lab File ID: SBT04119003 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|
| Dibenzofuran | 1.398 | 1.519 | -8.7 | |
| 2,4-Dinitrotoluene | 0.311 | 0.323 | -3.9 | |
| Diethylphthalate | 1.082 | 1.129 | -4.3 | |
| 4-Chlorophenyl-phenylether | 0.516 | 0.598 | -15.9 | |
| Fluorene | 1.118 | 1.136 | -1.6 | |
| 4-Nitroaniline | 0.230 | 0.132 | 42.6 | |
| 4,6-Dinitro-2-Methylphenol | 0.120 | 0.124 | -3.3 | |
| N-Nitrosodiphenylamine (1) | * 0.463 | 0.513 | -10.8 | * |
| 4-Bromophenyl-phenylether | 0.220 | 0.261 | -18.6 | |
| Hexachlorobenzene | 0.231 | 0.280 | -21.2 | |
| Pentachlorophenol | * 0.140 | 0.153 | -9.3 | * |
| Phenanthrene | 0.980 | 1.032 | -5.3 | |
| Anthracene | 0.985 | 1.022 | -3.8 | |
| Di-n-Butylphthalate | 1.050 | 1.141 | -8.7 | |
| Fluoranthene | * 0.903 | 1.020 | -13.0 | * |
| Pyrene | 1.719 | 1.659 | 3.5 | |
| Butylbenzylphthalate | 0.664 | 0.604 | 9.0 | |
| 3,3'-Dichlorobenzidine | 0.295 | 0.274 | 7.1 | |
| Benzo(a)Anthracene | 1.213 | 1.230 | -1.4 | |
| Chrysene | 1.073 | 1.100 | -2.5 | |
| bis(2-Ethylhexyl)Phthalate | 0.833 | 0.778 | 6.6 | |
| Di-n-Octyl Phthalate | * 1.348 | 1.268 | 5.9 | * |
| Benzo(b)Fluoranthene | 1.314 | 1.218 | 7.3 | |
| Benzo(k)Fluoranthene | 1.227 | 1.102 | 10.2 | |
| Benzo(a)Pyrene | * 1.200 | 1.123 | 6.4 | * |
| Indeno(1,2,3-cd)Pyrene | 1.113 | 1.105 | 0.7 | |
| Dibenz(a,h)Anthracene | 0.918 | 0.825 | 10.1 | |
| Benzo(g,h,i)Perylene | 0.921 | 0.954 | -3.6 | |
| Nitrobenzene-d5 | 0.428 | 0.471 | -10.1 | |
| 2-Fluorobiphenyl | 1.114 | 1.248 | -12.0 | |
| Terphenyl-d14 | 1.069 | 1.108 | -3.6 | |
| Phenol-d5 | 1.686 | 1.777 | -5.4 | |
| 2-Fluorophenol | 1.381 | 1.545 | -11.9 | |
| 2,4,6-Tribromophenol | 0.147 | 0.167 | -13.6 | |

(1) Cannot be separated from Diphenylamine

70

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration date: 04/12/90 Time: 1115

Lab File ID: 5BT04129005 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| | COMPOUND | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| | Dibenzofuran | 1.398 | 1.542 | -10.3 | |
| | 2,4-Dinitrotoluene | 0.311 | 0.305 | 1.9 | |
| | Diethylphthalate | 1.082 | 1.145 | -5.8 | |
| | 4-Chlorophenyl-phenylether | 0.516 | 0.600 | -16.3 | |
| | Fluorene | 1.118 | 1.154 | -3.2 | |
| | 4-Nitroaniline | 0.230 | 0.165 | 28.3 | |
| | 4,6-Dinitro-2-Methylphenol | 0.120 | 0.118 | 1.7 | |
| * | N-Nitrosodiphenylamine (1) | 0.463 | 0.496 | -7.1 | * |
| | 4-Bromophenyl-phenylether | 0.220 | 0.268 | -21.8 | |
| | Hexachlorobenzene | 0.231 | 0.291 | -26.0 | |
| * | Pentachlorophenol | 0.140 | 0.153 | -9.3 | * |
| | Phenanthrene | 0.980 | 1.027 | -4.8 | |
| | Anthracene | 0.985 | 1.012 | -2.7 | |
| | Di-n-Butylphthalate | 1.050 | 1.098 | -4.6 | |
| * | Fluoranthene | 0.903 | 0.998 | -10.5 | * |
| | Pyrene | 1.719 | 1.576 | 8.3 | |
| | Butylbenzylphthalate | 0.664 | 0.581 | 12.5 | |
| | 3,3'-Dichlorobenzidine | 0.295 | 0.329 | -11.5 | |
| | Benzo(a)Anthracene | 1.213 | 1.233 | -1.6 | |
| | Chrysene | 1.073 | 1.120 | -4.4 | |
| | bis(2-Ethylhexyl)Phthalate | 0.833 | 0.750 | 10.0 | |
| * | Di-n-Octyl Phthalate | 1.348 | 1.221 | 9.4 | * |
| | Benzo(b)Fluoranthene | 1.314 | 1.272 | 3.2 | |
| | Benzo(k)Fluoranthene | 1.227 | 1.107 | 9.8 | |
| * | Benzo(a)Pyrene | 1.200 | 1.181 | 1.6 | * |
| | Indeno(1,2,3-cd)Pyrene | 1.113 | 1.234 | -10.9 | |
| | Dibenz(a,h)Anthracene | 0.918 | 0.940 | -2.4 | |
| | Benzo(g,h,i)Perylene | 0.921 | 1.022 | -11.0 | |
| | Nitrobenzene-d5 | 0.428 | 0.455 | -6.3 | |
| | 2-Fluorobiphenyl | 1.114 | 1.228 | -10.2 | |
| | Terphenyl-d14 | 1.069 | 1.068 | 0.1 | |
| | Phenol-d5 | 1.686 | 1.762 | -4.5 | |
| | 2-Fluorophenol | 1.381 | 1.480 | -7.2 | |
| | 2,4,6-Tribromophenol | 0.147 | 0.169 | -15.0 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration date: 04/13/90 Time: 0032

Lab File ID: 5BT04139001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Dibenzofuran | | 1.398 | 1.562 | -11.7 | |
| 2,4-Dinitrotoluene | | 0.311 | 0.350 | -12.5 | |
| Diethylphthalate | | 1.082 | 1.235 | -14.1 | |
| 4-Chlorophenyl-phenylether | | 0.516 | 0.612 | -18.6 | |
| Fluorene | | 1.118 | 1.168 | -4.5 | |
| 4-Nitroaniline | | 0.230 | 0.209 | 9.1 | |
| 4,6-Dinitro-2-Methylphenol | | 0.120 | 0.111 | 7.5 | |
| N-Nitrosodiphenylamine (1) | * | 0.463 | 0.514 | -11.0 | * |
| 4-Bromophenyl-phenylether | | 0.220 | 0.261 | -18.6 | |
| Hexachlorobenzene | | 0.231 | 0.278 | -20.4 | |
| Pentachlorophenol | * | 0.140 | 0.146 | -4.3 | * |
| Phenanthrene | | 0.980 | 1.032 | -5.3 | |
| Anthracene | | 0.985 | 1.020 | -3.6 | |
| Di-n-Butylphthalate | | 1.050 | 1.202 | -14.5 | |
| Fluoranthene | * | 0.903 | 1.086 | -20.3 | * |
| Pyrene | | 1.719 | 1.619 | 5.8 | |
| Butylbenzylphthalate | | 0.664 | 0.660 | 0.6 | |
| 3,3'-Dichlorobenzidine | | 0.295 | 0.246 | 16.6 | |
| Benzo(a)Anthracene | | 1.213 | 1.258 | -3.7 | |
| Chrysene | | 1.073 | 1.090 | -1.6 | |
| bis(2-Ethylhexyl)Phthalate | | 0.833 | 0.874 | -4.9 | |
| Di-n-Octyl Phthalate | * | 1.348 | 1.337 | 0.8 | * |
| Benzo(b)Fluoranthene | | 1.314 | 1.281 | 2.5 | |
| Benzo(k)Fluoranthene | | 1.227 | 1.109 | 9.6 | |
| Benzo(a)Pyrene | * | 1.200 | 1.149 | 4.3 | * |
| Indeno(1,2,3-cd)Pyrene | | 1.113 | 1.115 | -0.2 | |
| Dibenz(a,h)Anthracene | | 0.918 | 0.887 | 3.4 | |
| Benzo(g,h,i)Perylene | | 0.921 | 0.957 | -3.9 | |
| Nitrobenzene-d5 | | 0.428 | 0.459 | -7.2 | |
| 2-Fluorobiphenyl | | 1.114 | 1.213 | -8.9 | |
| Terphenyl-d14 | | 1.069 | 1.114 | -4.2 | |
| Phenol-d5 | | 1.686 | 1.781 | -5.6 | |
| 2-Fluorophenol | | 1.381 | 1.537 | -11.3 | |
| 2,4,6-Tribromophenol | | 0.147 | 0.180 | -22.5 | |

(1) Cannot be separated from Diphenylamine

# SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NUS HOUSTON Contract: 4M410

Lab Code: NUS-HAL Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Instrument ID: INCOSE Calibration date: 04/23/90 Time: 2239

Lab File ID: 5BT04239001 Init. Calib. Date(s): 03/28/90 03/29/90

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) = 25.0%

| COMPOUND | | RRF | RRF50 | %D | |
|---|---|---|---|---|---|
| Dibenzofuran | | 1.398 | 1.582 | -13.2 | |
| 2,4-Dinitrotoluene | | 0.311 | 0.351 | -12.9 | |
| Diethylphthalate | | 1.082 | 1.283 | -18.6 | |
| 4-Chlorophenyl-phenylether | | 0.516 | 0.653 | -26.6 | |
| Fluorene | | 1.118 | 1.246 | -11.5 | |
| 4-Nitroaniline | | 0.230 | 0.205 | 10.9 | |
| 4,6-Dinitro-2-Methylphenol | | 0.120 | 0.119 | 0.8 | |
| N-Nitrosodiphenylamine (1) | * | 0.463 | 0.522 | -12.7 | * |
| 4-Bromophenyl-phenylether | | 0.220 | 0.270 | -22.7 | |
| Hexachlorobenzene | | 0.231 | 0.276 | -19.5 | |
| Pentachlorophenol | * | 0.140 | 0.150 | -7.1 | * |
| Phenanthrene | | 0.980 | 1.041 | -6.2 | |
| Anthracene | | 0.985 | 1.035 | -5.1 | |
| Di-n-Butylphthalate | | 1.050 | 1.225 | -16.7 | |
| Fluoranthene | * | 0.903 | 1.071 | -18.6 | * |
| Pyrene | | 1.719 | 1.654 | 3.8 | |
| Butylbenzylphthalate | | 0.664 | 0.677 | -2.0 | |
| 3,3'-Dichlorobenzidine | | 0.295 | 0.163 | 44.8 | |
| Benzo(a)Anthracene | | 1.213 | 1.247 | -2.8 | |
| Chrysene | | 1.073 | 1.122 | -4.6 | |
| bis(2-Ethylhexyl)Phthalate | | 0.833 | 0.938 | -12.6 | |
| Di-n-Octyl Phthalate | * | 1.348 | 1.261 | 6.5 | * |
| Benzo(b)Fluoranthene | | 1.314 | 1.397 | -6.3 | |
| Benzo(k)Fluoranthene | | 1.227 | 1.247 | -1.6 | |
| Benzo(a)Pyrene | * | 1.200 | 1.219 | -1.6 | * |
| Indeno(1,2,3-cd)Pyrene | | 1.113 | 1.027 | 7.7 | |
| Dibenz(a,h)Anthracene | | 0.918 | 0.885 | 3.6 | |
| Benzo(g,h,i)Perylene | | 0.921 | 0.901 | 2.2 | |
| Nitrobenzene-d5 | | 0.428 | 0.478 | -11.7 | |
| 2-Fluorobiphenyl | | 1.114 | 1.251 | -12.3 | |
| Terphenyl-d14 | | 1.069 | 1.159 | -8.4 | |
| Phenol-d5 | | 1.686 | 1.889 | -12.0 | |
| 2-Fluorophenol | | 1.381 | 1.518 | -9.9 | |
| 2,4,6-Tribromophenol | | 0.147 | 0.187 | -27.2 | |

(1) Cannot be separated from Diphenylamine

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-49-7-1-16

TO: JACK BRIEGEL

DATE: JULY 2, 1991

FROM: NELDA NOLAN NN2

CC: D. A. SCHEIB

SUBJECT: INORGANIC DATA VALIDTION - MISCELLANEOUS METALS
TINKER AIR FORCE BASE
CASE NO. TAFB1, SDG TABFT1

SAMPLES:

Water:

T-SU-

| | | |
|---|---|---|
| SB201W | SB202W | SB203W Drum #3 1415 |
| SB204W | SB205W | SB203W Drum #3 1420 |
| SB206W | SUMPW | SB211W |
| SB212W | SB213W | SB214W |
| SB216W | SB217W | SB218W |
| SB220W | SB221W | SB07W |
| SB08W | | |

NUS Laboratories analyzed 19 water samples for arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium. No field duplicates or field blanks were included in this sample set.

Data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Inorganic Data Validation" and the Hazardous Waste Remedial Action Program's (HAZWRAP) "Requirements for Quality Control of Analytical Data". The analyses were conducted under HAZWRAP Level D QA/QC criteria and were evaluated according to the following parameters:

- o Data Completeness
- o Holding Times
- * o Calibration Verification
- * o Laboratory and Field Blank Analyses
- * o Matrix Spike Recoveries
- * o Laboratory Duplicates
- * o Furnace Atomic Absorption Results
- o ICP Serial Dilution Results
- o Detection Limits

The symbol (*) indicates that quality control criteria were not met for this parameter. Since the analyses for this sample set did not include ICP interfering analytes, the data were not evaluated based on ICP Interference Check Sample results. Problems affecting data usability are addressed below and the attached Table 1 summarizes the validation qualifications.

Furnace Atomic Absorption Results

Post Digestion Spike (PDS) %Rs for selenium in some samples and lead in sample T-SU-SB217W was below the 85% lower quality control limit. Nondetects for selenium in affected samples are qualified as estimated, "UJ". No further action was taken for lead since the affected positive sample result is qualified as undetected due to blank contamination.

The PDS %R for arsenic in one sample exceeded the 115% upper quality control limit. No action was necessary because the affected sample result is a nondetect.

Please do not hesitate to contact me with questions regarding this review.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20302

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 1530 | | | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 1.5 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-SU-SB201W DRUM #1 (EP EXT.)

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H21270

Contract: TAFB

Lab Name: NUS CORPORATION

Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Lab Code:

Lab Sample ID:

Matrix (soil/water): WATER

Date Received: 03/24/90

Level (low/med): LOW

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 2.4 | | | F |
| 7440-39-3 | Barium | 3450 | | J | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | * UJ | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 0.70 | U | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | - UJ | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-SU-SB08W (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H21083

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/23/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 2800 | | J | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | [redacted] | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 4.4 | | [redacted] | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | [redacted] | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-SU-SB218W (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H21022

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/22/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 3940 | | J | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 25.0 | | * | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 2.6 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: T-SU-SB217W (EP EXT.)

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

H20922

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/21/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 4100 | | J | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | [redacted] | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 5.3 | | [redacted] | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | [redacted] | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SB213W (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20920

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/21/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 4180 | | J | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 9.8 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SB212W (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20309

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.7 | | | F |
| 7440-39-3 | Barium | 69.2 | | | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 1200 | | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 9.2 | | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 3.1 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 10.1 | | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 11.4 | | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SUMPW SUMP DRUM (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20307

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 1730 | | [redacted] | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | [redacted] | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 2.0 | [redacted] | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | [redacted] | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SB205W DRUM #5 (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20305

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 4040 | | | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 2.2 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SB203W DRUM #3 1420 (EP EXT.)

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

H20303

Lab Name: NUS CORPORATION Contract: TAFB

Lab Code: Case No.: TAFB1 SAS No.: SDG No.: TAFBT1

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/12/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | | | | |
| 7440-36-0 | Antimony | | | | |
| 7440-38-2 | Arsenic | 1.4 | U | | F |
| 7440-39-3 | Barium | 2110 | | | P |
| 7440-41-7 | Beryllium | | | | |
| 7440-43-9 | Cadmium | 2.9 | U | | P |
| 7440-70-2 | Calcium | | | | |
| 7440-47-3 | Chromium | 7.6 | | | P |
| 7440-48-4 | Cobalt | | | | |
| 7440-50-8 | Copper | | | | |
| 7439-89-6 | Iron | | | | |
| 7439-92-1 | Lead | 7.7 | | | F |
| 7439-95-4 | Magnesium | | | | |
| 7439-96-5 | Manganese | | | | |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | | | | |
| 7440-09-7 | Potassium | | | | |
| 7782-49-2 | Selenium | 2.0 | | | F |
| 7440-22-4 | Silver | 7.4 | U | | P |
| 7440-23-5 | Sodium | | | | |
| 7440-28-0 | Thallium | | | | |
| 7440-62-2 | Vanadium | | | | |
| 7440-66-6 | Zinc | | | | |
| | Cyanide | | | | |
| | | | | | |

Color Before: CLEAR Clarity Before: CLEAR Texture:

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

CLIENT ID: T-SU-SB202W DRUM #2 (EP EXT.)

**NUS CORPORATION** — **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 4M41

SITE NAME: Tinker AFB

SAMPLERS (SIGNATURE): [signature]

| STATION NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | NO. OF CONTAINERS | TCLP | VOCs | BNAs | Inorganics | PH | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $B211 | 3/17/90 | 2230 | X | | T-$U-$B211W | 2 | X | | | | | | Drum Sample |
| $B212 | 3/18/90 | 1200 | X | | T-$U-$B212W | 2 | X | | | | | | " " |
| $B214 | 3/19/90 | 2100 | X | | T-$U-$B214W | 2 | X | | | | | | " " |
| $B213 | 3/18/90 | 2200 | X | | T-$U-$B213W | 2 | X | | | | | | " " |
| $B214 | 3/19/90 | 1915 | | X | T-$U-$B214A | 3 | | X | X | X | X | | Depth 5' |
| $B214 | 3/19/90 | 2040 | | X | T-$U-$B214B | 3 | | X | X | X | X | | Depth 10' |
| $B215 | 3/19/90 | 1930 | | X | T-$U-$B215A | 3 | | X | X | X | X | | Depth 5' |
| $B215 | 3/19/90 | 1945 | | X | T-$U-$B215B | 3 | | X | X | X | X | | Depth 10' |
| $B215 | 3/19/90 | 2035 | | X | T-$U-$B215C | 3 | | X | X | X | X | | Depth 20' |

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